

ARMY

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REGULAR

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NAVY

AND VOLUNTEER
FORCES.

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VOLUME XVI.—NUMBER 23.
WHOLE NUMBER 803

NEW YORK, SATURDAY, JANUARY 11, 1879.

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221

"OLD RELIABLE"

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STILL TRIUMPHANT.

In Fall Meeting of N. R. A. at Creedmoor, **SHARPS** Rifles entered in SIXTEEN Matches, took first prize in twelve of them, and good prizes in the other four. Among them the

INTER-STATE MILITARY MATCH.

The New York State Team, using Sharps Military Rifle, won with a score of.....974
Best score with other Rifles.....960

THE INTERNATIONAL MILITARY MATCH.

New York State Team, with Sharps Rifles, won with a score of.....1044
Best with other Rifles.....908

THE INTER-STATE LONG RANGE MATCH.

Average per man using Sharps Rifles.....213
Other Rifles used averaged.....193 and 197

THE WIMBLEDON CUP.

Won by Mr. Frank Hyde with a Sharps Long Range Rifle, with a score of 143 out of 150 at 1,000 yards. (The LEECH CUP with same Rifle at Spring Meeting was won with a score of 205 points against best score by any other rifle of 197.)

For the Grand Aggregate Prize three competitors, Mr. F. Hyde, Col. H. F. Clark and Capt. W. H. Jackson, all using SHARPS, tied on a score of 300.

THE LONG RANGE MILITARY CHAMPIONSHIP.

First Prize won by Capt. J. S. Barton with a Sharps. *All prizes in this match were won with SHARPS Rifles.*

AMERICAN TEAM WALK OVER FIRST DAY.

J. S. Sumner made with a Sharps Long Range Rifle the extraordinary score of **221** out of a possible 225 at 800, 900 and 1,000 yards.

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A London Times correspondent at Russian Headquarters, says: The American Rifles used by the Turks have a tremendous range; "I have seen dug out of a hard clay bank, bullets which had penetrated sixteen inches after traversing a distance of over 2,000 yards."

8,300,000 shots have been fired from 550,000 of these rifles at our works by U. S. Government Inspectors, without accident. 200,000 service charges fired from a regular military rifle—Turkish model—without injury to the breech mechanism, and without impairing the efficiency or accuracy of the rifle. The service charge of powder is 85 grains. Weight of bullet 480 grains. We claim far greater range and penetration than can be had from the U. S. Government (Springfield) rifle, which uses 70 grains powder and 405 grains lead.

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THE ARMY.

RUTHERFORD B. HAYES, *President and Com'd-in-Chief.*
George W. McCrary, *Secretary of War.*

W. T. Sherman, *General of the Army of the United States.*
Washington, D. C. Brig.-Gen. E. D. Townsend, *Adj.-General.*
H. J. Crosby, *Chief Clerk, War Department.*

Brigadier-General E. D. Townsend, *Adjutant-General.*
Colonel Randolph B. Marcy, *Inspector-General.*
Brig.-Gen. Wm. M. K. Dunn, *Judge-Advocate-General.*
Colonel Albert J. Myer, *Chief Signal Officer.*
Brig.-Gen. Montgomery C. Meigs, *Quartermaster-General.*
Brigadier-General R. Macfadyen, *Commissary-General of Subs.*
Brigadier-General Jos. K. Barnes, *Surgeon-General.*
Brigadier-General Benj. Alvord, *Paymaster-General.*
Brigadier-General And. A. Humphreys, *Chief of Engineers.*
Brigadier-General Stephen V. Benét, *Chief of Ordnance.*

MILITARY DIVISION OF THE MISSOURI.

Lieutenant-Gen. P. H. Sheridan: Headquarters, Chicago, Ill.
Colonel Wm. D. Whipple, A. A. G.
DEPARTMENT OF DAKOTA.—Brigadier-General Alfred H. Terry,
Hdqs. St. Paul, Minn. Maj. Geo. D. Ruggles, A. A. G.
District of Montana.—Lieut.-Col. John Brooke, 3d Inf.,
commanding District. 1st Lt. J. H. Hile, Adj. 3d Inf., A. A. G.
District of the Yellowstone.—Col. N. A. Miles, 5th Inf.: Head-
quarters, Fort Keogh, M. T. 1st Lt. G. W. Baird, A. A. G.
DEPARTMENT OF THE MISSOURI.—Brigadier-General John Pope:
Headquarters, Fort Leavenworth, Kas. Maj. E. R. Platt, A. A. G.
District of New Mexico.—Colonel Edward Hatch, 9th Cavalry:
Hdqs. Santa Fe, N. M. 1st Lt. John S. Lund, 9th Cav., A. A. G.
DEPARTMENT OF THE PLATTE.—Brigadier-General Geo. Crook:
Hdqs. Fort Omaha, Neb. Lt.-Col. Robert Williams, A. A. G.
DEPARTMENT OF TEXAS.—Brigadier-General E. O. C. Ord:
Hdqs. San Antonio, Texas. (Maj. Thomas M. Vincent, A. A. G.)
District of the Rio Grande.—Col. George Sykes, 20th Infantry:
Hdqs. Fort Brown, Texas. 1st Lt. J. B. Rodman, Adj. 20th
Infantry, A. A. G.
District of the Neuse.—Col. R. S. Mackenzie, 4th Cavalry:
Hdqs. Fort Clark, Tex. 3d Lt. J. H. Dorst, A. A. G.
District of the Pecos.—Colonel B. H. Grierson, 10th Cavalry:
Hdqs. Fort Concho, Tex. 1st Lt. Robert G. Smith, 10th Cav.,
A. A. G.
District of North Texas.—Colonel H. B. Clitz, 10th Infantry,
Commanding. Hdqs. Ft. McKavett. 1st Lt. J. F. Stretch, 10th
Inf., A. A. G.

MILITARY DIVISION OF THE ATLANTIC

Major-General W. S. Hancock: Hdqs. Governor's Island,
N. Y. H. Colonel Jas. B. Fry, A. A. G.
DEPARTMENT OF THE EAST.—Major-General W. S. Hancock,
Headquarters, Governor's Island, N. Y. H. Col. J. B. Fry, A. A. G.
DEPARTMENT OF THE SOUTH.—Brigadier-General C. O. Augur:
Hdqs. Newport Bks., Ky. Maj. Oliver D. Greene, A. A. G.

MILITARY DIVISION OF THE PACIFIC

AND DEPARTMENT OF CALIFORNIA.

Major-General I. McDowell: Headquarters, Presidio of San
Francisco, Cal.
Lieutenant-Colonel John C. Kelton, A. A. G.
DEPARTMENT OF THE COLUMBIA.—Brevet Major-General O. O.
Howard: Hdqs. Ft. Vancouver, Wash. T. Maj. A. H. Nickerson,
A. A. G.
District of the Clearwater.—Colonel Frank Wheaton, 2d Infantry,
headquarters Lapwai, Idaho T.
DEPARTMENT OF ARIZONA.—Brevet Major-General O. B. Will-
cox: Hdqs. Prescott Barracks. Major J. P. Martin, A. A. G.

MILITARY DEPARTMENT OF WEST POINT.

Major-General John M. Schofield: Hdqs. West Point, N. Y.
Capt. Wm. M. Wherry, A. D. C., Act. A. A. G.
Major-General J. M. Schofield, Superintendent, U. S. M. A.
1st Lieut. Frank Michler, 5th Cavalry, Adjutant, U. S. M. A.

MOUNTED RECRUITING SERVICE.

Col. C. Grover, 1st Cavalry, Superintendent.
PRINCIPAL DEPOT.—ST. LOUIS BARRACKS, MO.
Col. C. Grover, 1st Cavalry, Commanding.

RECRUITING AND OFFICERS IN CHARGE.

Boston, Mass.—89 Court st.—Capt. H. E. Noyes, 2d Cav.
Buffalo, N. Y.—91 Pearl st.—Capt. H. J. Farnsworth, 3d Cav.
New York City, 174 Hudson st.—Capt. E. M. Heyl, 4th Cav.
N. Y. Branch office, 4 Mott St.—1st Lt. C. G. Gordon, 6th Cav.
Baltimore, Md.—87½ S. Sharp st.—1st Lt. John T. Morrison, 10th Cav.
Cincinnati, O.—219 W. 4th st.—Capt. Michael Cooney, 9th Cav.
Chicago, Ill.—9 S. Clark st.—1st Lt. Frank K. Upham, 1st Cav.
St. Louis, Mo.—717½ Olive st.—1st Lt. C. H. Rockwell, 5th Cav.

DEPOT.—JEFFERSON BARRACKS.

Major James F. Wadsworth, 9th Cavalry, Executive Officer.
First Lt. Chas. Morton, 3d Cavalry, Adjutant.
First Lt. Frank M. Gibson, 7th Cavalry.

GENERAL RECRUITING SERVICE.

Col. T. L. Cruttenberg, 17th Inf., Supt., Hdqs. New York.
First Lieut. W. W. Daugherty, 2d Infantry, A. A. G.

PRINCIPAL DEPOT.—DAVID'S ISLAND, N. Y. H.

Major Z. R. Bliss, 25th Infantry, Commanding.
Surgeon A. K. Smith, U. S. A.
Capt. J. T. Haskell, 23d Inf.
Capt. J. M. J. Sanno, 7th Inf.
Capt. D. H. Murdock, 6th Inf.
First Lieut. Ira Quinby, 11th Inf.
First Lieut. F. A. Whitney, 8th Inf. temp. duty, Boston, Mass.
First Lieut. W. Conway, 23d Inf.
First Lieut. J. B. Guthrie, 13th Inf.

DEPOT.—COLUMBUS BARRACKS, OHIO.

Major T. M. Anderson, 10th Inf., Commanding.
Surgeon C. B. White, U. S. A., Depot Surgeon.
Capt. Kinsey Bates, 1st Inf.
Capt. G. Lawton, 25th Inf.
Capt. A. A. Harbach, 20th Inf.
Capt. G. H. Burton, 21st Inf.
First Lieut. O. H. Greene, 17th Inf.
First Lieut. A. G. Markham, 24th Inf.
First Lieut. P. Hanson, 14th Inf.
A. A. Surgeon A. F. Steigerson.

RECRUITING AND OFFICERS IN CHARGE.

Baltimore, Md.—318 W. Pratt st.—Capt. E. Butler, 5th Inf.
Boston, Mass.—18 Portland st.—Capt. W. F. Drum, 2d Inf.
Buffalo, N. Y.—Exchange Bldg.—Capt. C. McKibbin, 4th Inf.
Cincinnati, O.—145 W. 5th St.—Capt. Jacob Kline, 18th Inf.
Chicago, Ill.—319 Randolph st.—Capt. W. H. Jordan, 9th Inf.
Cleveland, O.—132-144 Seneca st.—Capt. J. A. P. Hampson, 10th
Ind., 12d, 3d W. Wash. st.—Capt. C. J. von Hermann, 4th Inf.
New York City—100 Walker st.—Capt. W. T. Gentry, 19th Inf.
New York City—109 West street—Capt. J. S. Fletcher, 16th Inf.
Harrisburg, Pa.—17 North 3d street—Capt. E. C. Woodruff, 12th Inf.
St. Louis, Mo.—113 North 9th st.—Capt. J. H. Gageby, 2d Inf.
Washington, D. C.—1201 H st.—Capt. H. C. Corbin, 24th Inf.
Camp McDermitt, Nev.—Capt. A. W. Corlies, 6th Infantry.

G. O. 91, H. Q. A., Dec. 23, 1878.

Modifies G. O. 1, A. G. O., of 1863, so as to au-
thorize transportation by express when it can be pro-
vided as cheaply as by ordinary freight lines, and
directs as to transportation by mail. Officers are cau-
tioned not to use freight or express lines for trans-
mitting correspondence or any written matter, however
bulky, such use being forbidden by law (Section 3984,
Revised Statutes).—ED. JOURNAL.

G. O. 92, H. Q. A., Dec. 27, 1878.

The following Act of Congress is published for the
information and government of all concerned:

An Act establishing the rank of the senior inspector-general.
Be it enacted by the Senate and House of Representatives of the
United States of America in Congress assembled, That from and
after the passage of this act the rank of the senior inspector-gen-
eral of the United States Army shall be brigadier-general; but no
pay or allowances shall be made to said officer other than from the
date of appointment under this act: And provided, That nothing
herein enacted shall authorize any increase in the number or the
rank of the other officers of the Inspector-General's Department as
fixed by the first section of the act of June 23, 1874.
Approved December 12, 1878.

The following Act of Congress is published for the
information and government of all concerned:

An Act authorizing the donation of twenty condemned bronze
cannon to aid in the erection of a monument to the memory of
General George A. Custer, at the Military Academy at West
Point. Approved Dec. 21, 1878.
(G. O. 93, Dec. 25, H. Q. A.)

CIRCULAR TO INVENTORS, ETC.—By direction of the
Secretary of War, the following Circular from the
Board on Army Equipment, in session in this city, is
published for the information of all concerned:

BOARD ON ARMY EQUIPMENT.
WASHINGTON, D. C., December 17, 1878.

The Board on Equipments for the United States Army respect-
fully invite brief communications from persons in the military ser-
vice, regarding any improvements that can be made in the general
equipment of troops which have been suggested by observation
and experience, and would request inventors and manufacturers to
forward to the Board samples, accompanied by drawings and speci-
fications, of any improvements made in the equipment of troops;
keeping in view the importance of lessening the weight to be car-
ried by the soldier, increasing his efficiency, and at the same time
preserving or increasing the durability of the articles to be used.
The Adjutant-General U. S. Army is respectfully requested to
publish this Circular to the Army and to all interested.
A true copy from the record of the Board:

WILLIAM A. KOSBE, JR.,
1st Lieutenant, 3d Artillery, Acting Recorder.
(Circular, Dec. 28, H. Q. A.)

G. O. 9, M. D. MISSOURI, D. C. 30, 1878.

In accordance with the provisions of G. O. 79, c. 2,
from the Hdqs of the Army, the names of the follow-
ing posts in this Division are hereby changed, and they
will hereafter be known by the new names given
them, viz.:

DEPARTMENT OF DAKOTA.

The new post to be located near Milk River, Mont.
T., to be known as Fort Assinaboine.
The post located on Bear Butte Creek, D. T., to be
known as Fort Meade.

Camp Baker, Mont. T., as Fort Logan, in honor of
Capt. William Logan, 7th Infantry, killed August 9,
1877, in action with Nez Percé Indians at Big Hole
Pass, Mont. T.

Post at Standing Rock Indian Agency, D. T., as Fort
Yates, in honor of Capt. George W. Yates, 7th Cavalry,
killed June 25, 1876, in action with Sioux Indians, on
the Little Big Horn River, Mont. T.

Post at Cheyenne River Agency, D. T., as Fort Ben-
nett, in honor of Capt. Andrew S. Benét, 5th Infantry,
killed Sept. 4, 1878, in affair with Bannock Indians,
near Clark's Fork, Mont. T.

Post at Lower Brule Agency, D. T., as Fort Hale,
in honor of Capt. Owen Hale, 7th Cavalry, killed Sept.
30, 1877, in action with Nez Percé Indians, on Snake
River, Mont. T.

DEPARTMENT OF THE PLATTE.

Omaha Barracks, Neb., as Fort Omaha.
Sidney Barracks, Neb., as Fort Sidney.
Camp Brown, Wy. T., as Fort Washakie.
Camp Douglas, U. T., as Fort Douglas.
Camp Robinson, Neb., as Fort Robinson.

DEPARTMENT OF THE MISSOURI.

Camp Supply, Ind. T., as Fort Supply.
Camp near Pagosa Springs, Colo., as Fort Lewis, in
honor of Lieut.-Col. William H. Lewis, 19th Infantry,
who died Sept. 28, 1878, of wounds received Sept. 27,
1878, in affair with hostile Cheyenne Indians.

DEPARTMENT OF TEXAS.

Ringgold Barracks, Texas, as Fort Ringgold.

STAFF CORPS AND DEPARTMENTS.

The journeys performed by Major Thomas C. Sulli-
van, C. S., from Fort Vancouver to Portland, on the
10th inst.; from Portland to Fort Vancouver, and re-
turn, on the 11th inst.; from Portland to Fort Van-
couver, and return, on the 12th inst.; from Portland
to Fort Vancouver, on the 13th inst.; from Fort Van-
couver to Portland, on the 14th inst.; from Portland
to Fort Vancouver, on the 16th inst.; on public busi-
ness, are authorized (S. O. 149, Dec. 17, D. C.)

Major Alexander Sharp, P. D., will proceed from
Yankton, D. T., to Sioux City, Iowa, and return on
public business (S. O. 153, Dec. 30, D. C.)

Major J. R. Gibson, member G. C. M. Fort D. A.
Russell, Jan. 6 (S. O. 121, Dec. 31, D. P.)
1st Lieut. D. M. Taylor, Ord. Dept., Chief Ord.
Officer of this Dept., will proceed to Washington,

D. C., on business connected with the establishment of
an Ordnance Depot at this point (S. O. 238, Dec. 31,
D. M.)

1st Lieut. H. O. Paulding, M. D., member G. C. M.
Fort Bennett, D. T., Jan. 15 (S. O. 2, Jan. 4, D. D.)
Surg. Chas. C. Gray is relieved from duty in D. M.
and ordered to report at his home to await further
orders (S. O., Jan. 9, W. D., A. G. O.)

Asst. Surg. J. H. Bartholf, member G. C. M. Alca-
traz Island, Cal., Jan. 3 (S. O. 188, Dec. 23, M. D. P.)
Asst. Surg. John A. Bertholf is assigned to duty as
Post Surgeon at Alcatraz Island, Cal. (S. O. 187, Dec.
19, M. D. P.)

Surg. R. H. Alexander, M. D., member G. C. M.
Fort Trumbull, Conn., Jan. 6 (S. O. 1, Jan. 2, D. E.)
Asst. Surg. P. Middleton, M. D., member G. C. M.
Fort Porter, N. Y., Jan. 3 (S. O. 239, Dec. 31, D. E.)
Asst. Surg. L. A. La Garde, M. D., member G. C. M.
Fort Columbus, N. Y. H., Jan. 9 (S. O. 4, Jan. 6,
D. E.)

Asst. Surg. J. D. Hall, M. D., member G. C. M. Fort
Stockton, Texas, Jan. 6 (S. O. 273, Dec. 23, D. T.)

The contract of A. A. Surg. W. T. Baird, now at
Fort Griffin, Tex., is annulled—to take effect Dec. 31,
1878 (S. O. 273, Dec. 28, D. T.)

The contract of A. A. Surg. I. J. Culver, now at
Fort Stockton, Tex., is annulled—to take effect Dec.
31, 1878 (S. O. 273, Dec. 28, D. T.)

LEAVE OF ABSENCE.

Capt. J. G. C. Lee, Q. M. Dept., St. Paul, Minn.,
extended ten days (S. O. 153, Dec. 30, D. D.)

Captain John A. Darling, U. S. Artillery, extended
four days (S. O. 4, Jan. 6, D. E.)

Twenty days, Major M. R. Morgan, S. D., St. Paul,
Minn. (S. O. 1, Jan. 3, D. D.)

One month, to apply for an extension of 3 months,
Major John E. Blaine, P. D., Helena, M. T. (S. O. 1,
Jan. 3, D. D.)

Capt. Wm. Prince, O. D., extended six months on ac-
count of sickness (S. O., Jan. 7, W. D.)

A. A. Surg. J. H. Collins, Fort Garland, Colo., ex-
tended one month (S. O. 2, Jan. 4, M. D. M.)

PAYMENT OF TROOPS.

Par. 4, S. O. 233, c. s., from these Hdqs, is revoked,
and the following is substituted therefor: Major W.
R. Gibson, P. D., will proceed from Leavenworth,
Kas., via Wichita, Kas., to Forts Reno, Sill, and Gib-
son, I. T., for the purpose of paying the troops at those
points to Dec. 31, 1878 (S. O. 238, Dec. 31, D. M.)

The following named officers of the Pay Department
are designated to pay the troops serving in this Dept.,
on the muster and pay rolls of Dec. 31, 1878, as fol-
lows: Major N. Vedder, at Jackson Bks and Baton
Rouge, La., and Mount Vernon Bks, Ala.; Major Geo.
E. Glenn, at Little Rock and Hot Springs, Ark.; Maj.
W. P. Gould, at Charleston, S. C., Fort Johnston,
N. C., Savanah, Ga., St. Augustine, and Key West,
Fla.; Major W. H. Eckels, at Chatauco, Teon.,
McPherson Bks, Atlanta, Ga., Augusta Arsenal,
Augusta, Ga., and Fort Barrancas, Fla. (S. O. 106,
Dec. 31, D. S.)

Major J. P. Willard and Major A. S. Towar, P. D.,
will proceed to pay the troops stationed in the District,
to Dec. 31, 1878: Major Willard, at Forts Marcy and
Bayard, N. M., Fort Bliss, Texas, and Camp Lewis,
Colo.; Major Towar, at Forts Stanton, Wingate, and
Union, N. M. (S. O. 118, Dec. 28, D. N. M.)

NON-COMMISSIONED STAFF.

By direction of the Secretary of War, Corpl. George
M. Scally, Co. E, Battalion of Engineers, now at
West Point, N. Y., is transferred, as a private, to the
U. S. M. A. Detachment of Artillery, stationed at
that post (S. O., Jan. 2, W. D.)

Hosp. Steward Edgar L. Vincent will proceed to
Fort Columbus, N. Y. H., for duty (S. O. 4, Jan. 6,
D. E.)

THE LINE.

1st CAVALRY, Colonel Cuvier Grover.—Headquarters,
and B. D. F. K. M. Fort Walla Walla, Wash. T.; A. E. Camp
Harney, Ore.; G. Camp Bidwell, Cal.; G. Fort Boise, Idaho T.;
I. Camp Halleck, Nev.; H. Fort Colville, Wash. T.; L. Fort
Klamath, Ore.

2nd CAVALRY, Colonel I. N. Palmer.—Headquarters
and C. D. G. M. Fort Custer, M. T.; A. B. E. I. Fort Keogh;
F. H. K. L. Fort Ellis M. T.

3rd CAVALRY, Col. Wash. L. Elliott.—Headquarters,
and A. B. D. F. Fort Laramie, Wy. T.; I. Fort Fetterman,
Wy. T.; G. H. Fort Robinson, Neb.; G. Camp Sheridan, Neb.;
E. M. Fort Sidney, Neb.; E. Fort Fred. Steele, Wy. T.; L.
Fort McPherson, Neb.

Leave Extended.—1st Lieut. A. D. B. Smead, Regtl.
Adj., six months (S. O., Jan. 6, W. D.)

4th CAVALRY, Col. R. S. Mackenzie.—Headquarters,
and A. D. K. L. M. Fort Clark, Tex.; G. H. Fort Raco,
Ind. T.; G. Fort Bill, Ind. T.; I. Fort Supply, Ind. T.; B. F.
Fort Elliott, Tex.; E. Fort Duncan, Tex.

Detached Service.—1st Lieut. Charles M. Callahan
will report to the Supt. Gen. Recruiting Service to
conduct a detachment of recruits to the Dept. of Texas.
On the completion of this duty he will join his com-
pany (S. O., Jan. 7, W. D.)

5th CAVALRY, Col. W. Merritt.—Headquarters
and A. B. D. F. I. M. Fort D. A. Russell, Wy. T.; C. E. K. E.
Fort McKinney, Wy. T.; H. Fort McPherson, Neb.; G. I.
Fort Washakie, Wy. T.

Detached Service.—The G. C. M. convened by S. O.
2, dated Hdqs Battalion 5th Cav., in the field, near
Fort Laramie, W. T., Nov. 23, 1878, consisting of
Capt. J. B. Babcock, 1st Lieut. J. A. Augur, and 2d

Lieut. James V. S. Paddock, will reconvene as early as practicable, at Fort D. A. Russell, W. T., for the purpose of completing certain of its records (S. O. 120, Dec. 30, D. P.).

Capt. R. H. Montgomery, John B. Babcock, 1st Lieut. Jacob A. Augur, William P. Hall, R. Q. M., 2d Lieut. Samuel A. Cherry, members, G. C.-M. Fort D. A. Russell, Wy. T., Jan. 6 (S. O. 121, Dec. 31, D. P.).

Leave of Absence.—One month, 2d Lieut. Charles H. Watts, Fort D. A. Russell, W. T. (S. O. 123, Dec. 30, D. P.).

Leave Extended.—Capt. S. C. Kellogg, five months (S. O., Jan. 2, W. D.).

6TH CAVALRY, Col. James Oakes.—Headquarters and M. Co. Lowell, A. T.; A. G. Camp Grant, A. T.; B. Camp Huachuca, A. T.; C. L. Camp Bowie, A. T.; D. Co. Apache, A. T.; H. K. Camp Verde, A. T.; I. Camp McDowell, A. T.; F. Camp Thomas, A. T.

Detached Service.—Capt. W. M. Wallace, 2d Lieut. E. E. Dravo, members, G. C.-M. Prescott Bks, Ariz. T., Jan. 9 (S. O. 148, Dec. 18, D. A.).

7TH CAVALRY, Colonel S. D. Sturgis.—Headquarters, and A. C. G. H. I. L. Fort A. Lincoln, D. T.; F. E. Fort Totten, D. T.; B. D. Fort Yates, D. T.; E. M. Fort Meade, D. T.

Detached Service.—Capt. Henry Jackson is detailed a member G. C.-M. instituted by par. 2, S. O. 145, from these Hdqrs (S. O. 154, Dec. 31, D. D.).

Capt. C. S. Haley, A. D. C., will proceed to Jefferson City, Mo., Topeka, Ellsworth, and Wichita, Kas., for the purpose of completing the investigation of the case of Alfred Brooks, late of Co. C, 79th U. S. colored troops (S. O. 236, Dec. 28, D. M.).

8TH CAVALRY, Col. J. L. Gregg.—Headquarters and G. H. Fort Ringgold, Texas; C. D. I. L. Fort Brown, Tex.; A. B. K. M. Fort Clark, Tex.; E. San Diego, Tex.; F. Fort McIntosh.

Leave Extended.—Capt. John H. Coster, two months (S. O., Dec. 31, W. D.).

Transfers.—On the mutual application of the officers concerned: 1st Lieut. J. D. Stevenson from Co. K to F; 1st Lieut. J. W. Pullman from Co. F to K (S. O., Dec. 31, W. D.).

9TH CAVALRY, Col. Edward Hatch.—Headquarters, Santa Fe, N. M.; L. Fort Bliss, Tex.; K. Fort Garland, C. T.; F. H. M. Fort Stanton, N. M.; A. B. C. G. Fort Bayard, N. M.; E. Fort Union, N. M.; I. Ojo Caliente, N. M.; D. Camp Lewis, Colo.

Change of Station.—Capt. F. S. Dodge will proceed to Camp Lewis, Colo., and assume command of that camp and his company (S. O. 117, Dec. 27, D. N. M.).

Detached Service.—1st Lieut. C. A. Stedman, 9th Cav., will at once temporarily relieve Capt. Thomas Blair, 15th Inf., of command of Co. H, 15th Inf., and the post of Fort Marcy, to enable him to avail himself of the leave of absence granted him from Hdqrs Dept. of the Missouri, on 23d inst. (S. O. 117, Dec. 27, D. N. M.).

2d Lieut. Thos. C. Davenport is ordered to report, Feb. 1, to Capt. R. N. Scott, Washington, to assist in the preparation of the Records of the Rebellion (S. O., Jan. 9, W. D.).

Leave Extended.—Major J. F. Wade, three days (S. O., Jan. 2, W. D.).

10TH CAVALRY, Colonel Benjamin H. Grierson.—Headquarters and D. P. M. Fort Concho, Tex.; A. G. I. Fort Sill, I. T.; C. H. K. Fort Davis, Tex.; B. L. Fort Stockton, Tex.; E. San Felipe, Tex.

• On field service in the District of the Pecos.

Detached Service.—Capt. G. A. Armes, 3d Lieut. C. Esterly, J. Bigelow, Jr., members, G. C.-M. Fort Stockton, Tex., Jan. 6 (S. O. 273, Dec. 28, D. T.).

The telegraphic instructions, of the 30th inst., to the C. O. Fort Davis, Tex., directing him to order 1st Lieut. W. H. Beck to proceed to San Antonio, Tex., and report to the A. A. G. of the Dept., are confirmed (S. O. 275, Dec. 31, D. T.).

2d Lieut. J. Bigelow, Jr., will proceed to San Antonio, Tex., on public business (S. O. 275, Dec. 31, D. T.).

Leave Extended.—Capt. W. B. Kennedy, five months (S. O., Jan. 3, W. D.).

1ST ARTILLERY, Col. Israel Vogdes.—Headquarters and B. E. F. K. Fort Adams, R. I.; I. Fort Warren, Mass.; C. M. Fort Trumbull, Conn.; H. Fort Proble, Me.; L. Fort Independence, Mass.; G. Ft. Monroe, Va.; A. D. Fort Columbus, N. Y. H.

Detached Service.—Lieut. Col. John M. Brannan, Capt. Loomis L. Langdon, Tully McCrea, 1st Lieut. James M. Ingalls, Gilbert P. Cotton, 2d Lieut. David Price, Jr., members, and 1st Lieut. Isaac T. Webster, J.-A. of G. C.-M. Fort Trumbull, Conn., Jan. 6 (S. O. 1, Jan. 2, D. E.).

1st Lieut. J. L. Sherman, 2d Lieut. C. H. Clark, members, G. C.-M. Fort Monroe, Va., Jan. 6 (S. O. 2, Jan. 3, D. E.).

Capt. Thomas Ward, 1st Lieut. E. Van A. Andruss, Henry W. Hubbell, Jr., 2d Lieut. Adam Slaker, members, and 2d Lieut. Edwin McNeill, J.-A. of G. C.-M. Fort Columbus, N. Y. H., Jan. 9 (S. O. 4, Jan. 6, D. E.).

Leave Extended.—Col. Israel Vogdes, further extended three days (S. O. 2, Jan. 3, D. E.).

2ND ARTILLERY.—Colonel William F. Barry.—Headquarters and A. D. M. Fort McHenry, Md.; C. Fort Johnston, N. C.; E. F. G. San Antonio, Tex.; K. Ft. Monroe, Va.; B. H. Washington, D. C.; I. Ft. Ontario, N. Y.; L. Ft. Clark, Tex.

Detached Service.—1st Lieut. G. Mitchell, S. Smith, 2d Lieut. E. D. Hoyle, members, G. C.-M. Fort Monroe, Va., Jan. 6 (S. O. 2, Jan. 3, D. E.).

Capt. Joseph C. Breckinridge, James E. Wilson, 1st Lieut. Asher C. Taylor, 2d Lieut. W. A. Simpson, E. E. Gayle, F. E. Hobbs, members, and 1st Lieut. Edward B. Hubbard, J.-A. of G. C.-M. Washington Arsenal, D. C., Jan. 7 (S. O. 2, Jan. 3, D. E.).

3RD ARTILLERY, Col. George W. Getty.—Headquarters and C. D. L. M. Fort Hamilton, N. Y. H.; A. Ft. Monroe, Va.; E. I. Fort Wadsworth, N. Y. H.; B. Fort Niagara, N. Y.; H. Madison Bks, N. Y.; K. Plattburg Bks, N. Y.; F. G. Fort Schuyler, N. Y.

Detached Service.—Capt. Lorenzo Loain, 2d Lieut. Charles B. Satterlee, members, and 1st Lieut. Christopher C. Wolcott, J.-A. of G. C.-M. Fort Monroe, Va., Jan. 6 (S. O. 2, Jan. 3, D. E.).

Capt. E. R. Warner, 1st Lieut. A. T. Abbott, members, G. C.-M. Fort Columbus, N. Y. H., Jan. 9 (S. O. 4, Jan. 6, D. E.).

Ayres Society.—The enlisted men of Batteries C, D, L and M, having organized an association to be known as the "Ayres Society," named after Bvt. Major Gen. R. J. Ayres, Lieut.-Col. 3d Art., elected the following named officers: 1st Sergt. J. H. Willis, President; Corpl. O'Neill, Vice President; Sergt. Major A. P. Drost, Treasurer; Pvt. F. White, Recording Secretary. Dec. 6th they gave their first hop, which was attended by a number of the officers and their ladies, besides invited guests from New York City and Brooklyn. It is the intention of the association to give at least two hops each month during the winter. The 3d Artillery string band furnishes the music.

4TH ARTILLERY, Col. W. H. French.—Headquarters, H. Angel Island, Cal.; C. L. Alcatraz Island, Cal.; M. Fort Stevens, Or.; G. Fort Canby, Wash. T.; I. Fort Monroe, Va.; A. K. Fort Point, Cal.; F. Point San Jose, Cal.; B. D. Presidio Cal.

Detached Service.—Capt. Marcus P. Miller, Frank G. Smith, 1st Lieut. Sidney W. Taylor, 2d Lieut. William Crozier, members, and 1st Lieut. Frederick Fuger, R. Q. M., J.-A. of G. C.-M. Alcatraz Island, Cal., Jan. 3 (S. O. 188, Dec. 23, M. D. P.).

1st Lieut. G. H. Paddock, member, G. C.-M. Fort Monroe, Va., Jan. 6 (S. O. 2, Jan. 3, D. E.).

5TH ARTILLERY, Col. Henry J. Hunt.—Headquarters and E. P. I. Charleston, S. C.; A. K. St. Augustine, Fla.; B. L. M. Fort Barranca, Fla.; G. H. Key West, Fla.; C. Fort Monroe, Va.; D. Savannah, Ga.

Detached Service.—Capt. W. F. Randolph, member, G. C.-M. Fort Monroe, Va., Jan. 6 (S. O. 2, Jan. 3, D. E.).

1ST INFANTRY, Lieut.-Col. Pinkney Lugenbeel.—Headquarters and A. C. E. I. Fort Randall, D. T.; B. G. Fort Hale, D. T.; D. H. Fort Sully, D. T.; F. K. Fort Meade, D. T.

2ND INFANTRY, Colonel Frank Wheaton.—Headquarters and D. Fort Lapwai, I. T.; C. K. Camp Howe, I. T.; B. K. I. Fort Colville, W. T.; A. G. H. Coeur d'Alene Lake, I. T.; F. Camp Harney, Ore.

3RD INFANTRY, Colonel De L. Floyd-Jones.—Headquarters and C. E. F. G. Fort Shaw, M. T.; A. Fort Benton, M. T.; K. Fort Logan, M. T.; B. D. H. I. Missoula City, M. T.

Lieut. Thomas S. Wallace.—The War Department is informed of the death of 1st Lieut. Thomas S. Wallace, 3d Inf. He was stationed at Fort Missoula, near Helena, Mont., and on Dec. 7, with a companion, went out on a hunt. They became separated and his companion returned to the fort that night. Lieut. Wallace's horse came in riderless. A search party was sent out and on the 17th of December his body was found and brought to the fort. It is thought that in crossing the Missoula River he became benumbed with cold, and his horse getting away from him he perished. Lieut. Wallace was born in Kansas and appointed to the Army from New York as 2d Lieutenant April 27, 1866. He entered the Volunteer service the last year of the war as 1st Lieutenant 4th N. Y. Heavy Artillery May 20, 1865, and was mustered out the 26th of Sept. following.

In G. O. No. 4, Fort Shaw, M. T., Dec. 24, 1878, Col. Brooke says: "But a short time ago Lieut. Wallace won for himself soldierly distinction with a band of Indians, and has always on occasions of danger manifested true gallantry that was a source of pride to his regiment; and its commander feels that all will sympathize most sincerely with the parents of him whose career is brought to such a sudden close. As a tribute of respect to his memory, the officers of the regiment will wear the usual badge of mourning for thirty days."

The following is the Military History of Lieut. Wallace, as shown by the files of the Adjutant-General's Office:

Volunteer Record: Mustered into Service May 20, 1865, as 1st Lieutenant 4th New York Heavy Artillery, and served therewith in the defenses of Washington until honorably mustered out of Service September 26, 1865.

Regular Army Record: Appointed 2d Lieutenant 3d Infantry, April 27, 1866, and 1st Lieutenant 3d Infantry, Dec. 31, 1867.

Service: Joined regiment July 20, 1866, and served therewith in Kansas to Nov. 30, 1867; on sick leave and S. C. D. to May 30, 1870; with regiment in Kansas to July, 1874, and Louisiana to Nov. 27, 1875; on sick leave and S. C. D. to Dec. 2, 1876; with regiment in Louisiana and Alabama to July 20, 1877, and during labor strikes, in Penn. to Sept. 21, 1877; in Montana (the left Fort Missoula, M. T., July 15, 1878, with 15 men in pursuit of a band of hostile Nez Perce Indians, overtook them on the 21st, killed 6 and wounded 3, captured 31 horses and mules, and returned to the post on the 25th, having travelled about 450 miles) till the morning of Dec. 8, 1878, when he left post for the purpose of hunting in the mountains, on the left side of the Bitter-root river, opposite the fort—parted from his comrade early in the afternoon, after which no trace of him could be found until Dec. 15th, when his dead body was discovered by a citizen on the right bank of the Missoula river, about 8 miles below the town of Missoula. It is supposed that he reached the river after dark, and that in crossing he was plunged into water beyond his depth, and, although he succeeded in making the crossing, he lost his horse, and, being benumbed with cold, he sank down and perished from cold and exhaustion.

4TH INFANTRY, Colonel Franklin F. Flint.—Headquarters and B. C. F. G. Fort Sanders, W. T.; E. H. Fort Fred. Steele, W. T.; A. Ft. Fetterman, W. T.; D. E. Fort Laramie, W. T.; I. Fort D. A. Russell, Wy. T.

Detached Service.—Capt. S. P. Ferris, member, and 1st Lieut. J. W. Bubb, J.-A. of G. C.-M. Fort Russell, Wy. T., Jan. 6 (S. O. 121, Dec. 31, D. P.).

5TH INFANTRY, Colonel Nelson A. Miles.—Headquarters and A. B. C. D. E. F. G. H. I. K. Ft. Keogh, M. T.

Detached Service.—Capt. William G. Mitchell, A. D. C., will accompany the Division Commander to Washington, D. C., and return to these Hdqrs (S. O. 1, Jan. 4, M. D. A.).

6TH INFANTRY, Colonel William B. Hazen.—Headquarters and C. D. E. F. G. H. I. Fort Buford, D. T.; A. B. Fort Abraham Lincoln, D. T.; H. K. Fort Stevenson, D. T.

Detached Service.—Capt. John S. Poland is relieved

as a member G. C.-M. instituted by par. 2, S. O. 145, from these Hdqrs, and is appointed Judge-Advocate (S. O. 154, Dec. 31, D. D.).

7TH INFANTRY, Col. John Gibbon.—Headquarters, and B. C. E. F. H. K. Fort Snelling, Minn.; A. I. Fort Shaw, M. T.; G. Fort Ellis, M. T.; D. Fort Logan, M. T.

Detached Service.—1st Lieut. Daniel Robinson is detailed a member G. C.-M. instituted by S. O. 124, from these Hdqrs (S. O. 153, Dec. 30, D. D.).

1st Lieut. William Quinton is appointed J.-A. of G. C.-M. instituted by S. O. 124, from these Hdqrs (S. O. 153, Dec. 30, D. D.).

Relieved.—1st Lieut. A. H. Jackson, relieved as member G. C.-M. instituted by S. O. 124, from these Hdqrs (S. O. 153, Dec. 30, D. D.).

1st Lieut. W. Quinton, relieved as member G. C.-M. instituted by S. O. 124, from these Hdqrs (S. O. 153, Dec. 30, D. D.).

1st Lieut. A. H. Jackson, relieved as J.-A. of G. C.-M. instituted by par. 2, S. O. 145, from these Hdqrs (S. O. 154, Dec. 31, D. D.).

8TH INFANTRY, Col. August V. Kautz.—Headquarters and A. H. K. Benicia Bks, Cal.; C. Camp McDermitt, Nev.; D. Camp Bidwell, Cal.; E. Camp Gaston, Cal.; F. Camp Mojave, A. T.; G. Camp Halleck, Nev.; I. San Diego, Cal.; B. Fort Yuma, Cal.

Leave of Absence.—Eight months, with permission to go beyond sea, Capt. Charles Porter (S. O., Jan. 6, W. D.).

9TH INFANTRY, Col. John H. King.—Headquarters and G. H. Fort Omaha, Neb.; A. D. F. K. Fort McKinney, Wy. T.; I. Fort McPherson, Neb.; E. Camp at Cheyenne Depot, Wy. T.; B. Fort Sidney, Neb.; C. Fort Hartsuff, Neb.

Detached Service.—2d Lieut. John A. Baldwin will remain on temporary duty at Sidney Bks, until early spring next, when he will join his company at McKinney, W. T. (S. O. 120, Dec. 30, D. P.).

10TH INFANTRY, Colonel Henry B. Clitz.—Headquarters and A. B. C. F. I. Fort McKavett, Texas; D. Fort McIntosh, Tex.; E. Fort Griffin, Tex.; G. H. K. Fort Clark, Tex.

11TH INFANTRY, Colonel William H. Wood.—Headquarters and D. E. G. I. K. Fort Bennett, D. T.; B. C. F. H. Fort Custer, M. T.; A. Fort Sully, D. T.

Detached Service.—Capt. Mason Jackson, 1st Lieut. George G. Loit, Adjt., L. A. Matile, Albert L. Myer, 2d Lieut. R. W. Hoyt, George Le R. Brown, members, and 1st Lieut. William Hoffman, J.-A. of G. C.-M. Fort Bennett, D. T., Jan. 15 (S. O. 2, Jan. 4, D. D.).

12TH INFANTRY, Colonel Orlando B. Willcox.—Headquarters and A. F. Fort Whipple, A. T.; B. K. Camp Verde, A. T.; C. D. Camp Apache, A. T.; E. Fort Supply, A. T.; G. Camp McDowell, A. T.; H. Camp Thomas, A. T.; I. Camp Grant, A. T.

Detached Service.—Capt. J. M. Norvell, 2d Lieut. W. W. Wotherpoon, R. K. Evans, Guy Howard, E. F. Willcox, members, and 1st Lieut. F. A. Smith, Adjt., J.-A. of G. C.-M. Prescott Bks, Ariz. T., Jan. 9 (S. O. 148, Dec. 18, D. A.).

Leave Extended.—1st Lieut. George S. Wilson, five months (S. O., Jan. 2, W. D.).

13TH INFANTRY, Colonel P. R. de Trobriand.—Headquarters and A. D. H. I. Jackson Bks, La.; B. P. K. Baton Rouge Bks, La.; C. Dardanelle, Ark.; G. Mt. Vernon, Ala.; K. Hot Springs, Ark.

14TH INFANTRY, Col. John E. Smith.—Headquarters and D. E. F. H. I. K. Fort Douglas, Utah; A. Fort Hall, Idaho; B. C. G. Fort Cameron, U. T.

Detached Service.—1st Lieut. Joseph A. Sladen, A. D. C., will accompany the Department Commander to Portland, Ore., and return (S. O. 149, Dec. 17, D. U.).

15TH INFANTRY, Col. Geo. A. Woodward.—Headquarters and D. K. Ft. Wingate, N. M.; B. Ft. Garland, C. T.; E. Ft. Union, N. M.; F. Fort Bayard, N. M.; G. Fort Stanton, N. M.; I. Camp Lewis, Colo.; A. G. Fort Bliss, Tex.; H. Fort Marcy, N. M.

Leave Extended.—2d Lieut. George F. Cooke, Fort Garland, Colo., one month (S. O. 1, Jan. 3, M. D. M.).

16TH INFANTRY, Colonel G. Pennypacker.—Headquarters and A. C. H. Fort Riley, Kas.; E. I. Fort Reno, I. T.; B. D. Fort Sill, I. T.; K. Fort Gibson, I. T.; F. G. Fort Wallace, Kas.

Leave of Absence.—Two months, 2d Lieut. William Lassiter (S. O., Jan. 7, W. D.).

17TH INFANTRY, Colonel Thomas L. Crittenden.—Headquarters and C. Fort Totten, D. T.; B. D. H. I. Fort Yates, D. T.; G. Fort Lincoln, D. T.; A. F. Fort Sisseton, D. T.; E. K. Fort Pembina, D. T.

18TH INFANTRY, Colonel Thomas H. Ruger.—Headquarters and B. C. D. E. F. G. H. I. K. McPherson Bks, Atlanta, Ga.; A. Chattanooga, Tenn.

Leave of Absence.—One month, to apply for extension of one month, 2d Lieut. William S. Patten, McPherson Bks, Atlanta, Ga. (S. O. 2, Jan. 4, D. S.).

ROSTER COMMISSIONED OFFICERS.—Headquarters, McPherson Bks, Atlanta, Ga.: Col. T. H. Ruger; Lieut.-Col. H. M. Black; Major W. H. Brown; Adjt. C. H. Potter, Post Adjt. and Sig. Officer; Q. M.: J. H. Baldwin, A. A. Q. M.: A. C. S., and Post Treas.; Capt. R. L. Morris, D.; E. W. Smith, G. A. D. C. to Gen. Terry; J. Stewart, K.; Wm. H. McLaughlin, H.; B. B. Keeler, I. A. D. C. to Gen. McDowell; T. J. Lloyd, F.; C. Durham, B.; 1st Lieut. C. R. Paul, F.; G. N. Bonford, B.; W. A. Miller, K.; H. H. Adams, H.; R. F. Bates, G.; C. B. Hinton, I.; F. H. Barnhart, E.; J. Anderson, C.; 2d Lieut. J. H. Todd, E.; Wm. B. Wheeler, B.; O. B. Warwick, H.; C. H. Cabaniss, Jr., D.; C. W. Williams, E.; W. S. Patten, C.; W. T. Wood, F. Chattanooga, Tenn.: Capt. E. R. Kellogg, A.; 1st Lieut. G. S. Hoyt, A. A. Q. M. and A. C. S.; 2d Lieut. D. H. Floyd, A. On Detached Service: Capt. J. Kline, E. Reigel, Chm.; O.; 2d Lieut. G. L. Turner, I. Comdg. Det. at Newport Bks. Sick; Capt. J. K. Hyer, C; 1st Lieut. M. Leahy, D.

19TH INFANTRY, Colonel Charles H. Smith.—Headquarters and E. H. K. Fort Lyon, C. T.; D. F. G. Fort Dodge, Kas.; C. I. Fort Elliott, Tex.; A. B. Fort Supply, I. T.

20TH INFANTRY, Colonel Geo. Sykes.—Headquarters and B. D. G. I. K. Fort Brown, Tex.; A. San Antonio, Tex.; C. E. F. H. Fort Clark, Tex.

21ST INFANTRY, Colonel Alfred Sully.—Headquarters and D. G. K. Fort Vancouver, W. T.; A. Fort Boise, I. T.; H. Camp Harney, Or.; F. Fort Klamath, Or.; C. Fort Lapwai, I. T.; B. E. Ft. Townsend, Wash. T.; I. Ft. Canby, Wash. T.

Leave of Absence.—One year, with permission to go beyond sea, Capt. S. P. Jocelyn (S. O., Jan. 3, W. D.).

22ND INFANTRY, Colonel David S. Stanley.—Headquarters and B. G. Fort Porter, N. Y.; A. C. D. H. Fort Wayne, Mich.; F. K. Fort Brady, Mich.; E. Fort Mackinac, Mich.; I. Fort Gratiot, Mich.

Detached Service.—Capt. Charles W. Miner, 1st Lieut. Benjamin C. Lockwood, Fielding L. Davies, 2d Lieut. J. M. Gore, M. C. Martin, members, and 1st Lieut. Hiram H. Ketchum, Adjt., J. A. of G. C. M. Fort Porter, N. Y., Jan. 8 (S. O. 239, Dec. 31, D. E.)

23RD INFANTRY, Colonel Jeff. C. Davis.—Headquarters and A. D. E. F. G. H. I. Fort Leavenworth, Kas.; B. C. E. Fort Hays, Kas.

Detached Service.—Capt. Charles Wheaton is relieved from duty as member of the Board of Officers convened by par. 5 of S. O. 167, and reconvened by par. 3 of S. O. 233, from these Hdqrs, and Capt. C. A. Woodruff, C. S., U. S. A., is detailed as member of said Board in his stead (S. O. 237, Dec. 30, D. M.)

The telegram from this office, of current date, to the C. O. of Fort Hays, Kas., directing that 1st Lieut. John F. Trout report at these Hdqrs, for the purpose of making estimates for supplies necessary for new post in the Indian Territory, is confirmed (S. O. 1, Jan. 3, D. M.)

Leave Extended.—Col. Jeff. C. Davis, Fort Leavenworth, Kas., further extended five days (S. O. 236, Dec. 28, D. M.)

24TH INFANTRY, Colonel Joseph H. Potter.—Headquarters and A. B. Fort Duncan, Tex.; D. E. H. Fort McIntosh, Tex.; C. G. I. K. Fort Ringgold, Tex.

Detached Service.—1st Lieut. John L. Clem is placed on duty in charge of the recruiting rendezvous for the General Service, in Washington, D. C., during the absence of Capt. H. C. Corbin (S. O. 1, Jan. 4, W. D.)

Lieut. Helenus Dodd.—Information has been received of the death of Lieut. Helenus Dodd, Adjutant of the 24th Infantry, which took place at Fort Duncan, Tex., Dec. 30, 1878, of pneumonia. The following is his Military History, as shown by the files of the Adjutant-General's Office:

Volunteer Record: Mustered into Service as 2d Lieutenant, 20th New York Vols., Dec. 23, 1863, and served therewith until honorable muster out of Service, June 20, 1863. Re-entered Service as 2d Lieut., 7th New York Vols., Sept. 17, 1864, and promoted Captain, Feb. 23, 1865. Served with regiment in the 2d Corps Army of the Potomac to December 10, 1864; A. D. C. to Bvt. Brig. Gen. H. J. Madill, commander, 3d Brigade, 1st Division, 2d Corps (also A. A. Gen. of same Brigade from March 31 to May 5, 1865), to June, 1865; with regiment until honorably mustered out of Service, August 4, 1865.

Regular Army Record: Appointed 2d Lieut., 15th Infantry, May 11, 1866; transferred to 33d Infantry, September 21, 1866; 1st Lieut., 33d Infantry, August 24, 1867; Unassigned, May 1, 1869; Assigned to 24th Infantry, January 1, 1871; Adjutant of regiment from August 1, 1872, to December 30, 1873.

Service: Joined regiment Sept. 5, 1866, and served therewith in Georgia and Alabama to May 6, 1869; awaiting orders to July 21, 1869; Indian Agent at the Colorado river reservation, Arizona, to August 28, 1871; on leave and en route to Nov. 1, 1871, when he joined his regiment and served with it in Texas to May 13, 1876; on leave to September 30, 1876; with regiment in Texas (A. A. Gen., Dia. of Nueces, from Nov. 2, 1876, to December 25, 1877, to December 30, 1878, when he died at Fort Duncan, Texas, of pneumonia.

25TH INFANTRY, Colonel George L. Andrews.—Headquarters and E. H. Fort Davis, Tex.; C. D. F. Fort Stockton, Tex.; B. San Felipe, Tex.; A. G. E. Ft. Concho, Tex. * In the field.

Detached Service.—Capt. C. F. Robe, 2d Lieut. John McMartin, members, and 1st Lieut. H. B. Quimby, J. A. of G. C. M. Fort Stockton, Tex., Jan. 6 (S. O. 273, Dec. 26, D. T.)

2d Lieut. J. McMartin will proceed to San Antonio, Tex., on public business (S. O. 275, Dec. 31, D. T.)

Casualties among the Commissioned Officers of the U. S. Army reported to the Adjutant-General's Office during the week ending Saturdays, December 23, 1878, and January 4, 1879.

Capt. Charles N. W. Cunningham, 24th Inf.—Dismissed Dec. 23, 1878.

Lieut.-Col. Barton S. Alexander, Corps of Engrs.—Died Dec. 15, 1878, at San Francisco, Cal.

1st Lieut. Thomas S. Wallace, 3d Inf.—Died Dec. 8, 1878, near Missoula, Mont. T.

1st Lieut. Helenus Dodd, 24th Inf.—Died Dec. 30, 1878, at Fort Duncan, Tex.

2d Lieut. Frank X. Kibbie, 20th Inf.—Resigned Jan. 1, 1879.

Indian Prisoners.—The C. O. Camp Harney, Ore., will immediately send all Indian prisoners at that post to The Dalles, Ore., under charge of a guard of two companies. Care will be taken to prevent the escape or capture of such as are known to be ringleaders en route. The C. O. of the escort will promptly report his arrival at The Dalles, to enable the Department Commander to meet the prisoners at that point to confirm selection of guilty for retention (S. O. 149, Dec. 17, D. C.)

Target Practice.—The following recapitulation of Target Practice in the Dept. of Texas, compiled from company reports for the months of September, October, and November, is hereby announced:

BY REGIMENT—RANGE, 100 YARDS.			
Best.			Worst.
25th Infantry.	Per cent. of hits, 94.53.		10th Infantry.
	Per cent. of score, 68.00.		85.65.
			57.68.
RANGE, 300 YARDS.			
20th Infantry.	Per cent. of hits, 72.69.		10th Cavalry.
	Per cent. of score, 44.50.		60.56.
			84.61.
BY COMPANY—RANGE, 100 YARDS.			
Co. II, 24th Infantry.	Per cent. of hits, 90.72.	Co. E, 10th Infantry.	
	Per cent. of score, 75.03.		78.
			47.30.
RANGE, 300 YARDS.			
Co. II, 10th Infantry.	Per cent. of hits, 78.30.	Co. I, 24th Infantry.	
	Per cent. of score, 49.66.		55.57.
			82.30.
BY INDIVIDUAL—RANGE, 100 YARDS.			
Private Joseph Abraham.		Private Daniel Brown.	
Co. K, 10th Infantry.	Per cent. of hits, 100.	Co. F, 8th Cavalry.	
	Per cent. of score, 92—23 out of a possible 25.		0.
Sergeant William H. Deal.		Private William Corcoran.	
Co. A, 4th Cavalry.	Per cent. of hits, 100.	Co. A, 10th Infantry.	
	Per cent. of score, 89—89 out of a possible 100.		0.

RANGE, 300 YARDS.			
Sergeant Benjamin Blue.		Private Henry Williams.	
Co. K, 10th Infantry.	Per cent. of hits, 100.	Co. F, 10th Cavalry.	
	Per cent. of score, 80.		0.
BY REGIMENT—RANGE, 100 YARDS.			
25th Infantry.	Per cent. of hits, 95.13.	10th Cavalry.	
	Per cent. of score, 69.63.		91.58.
			68.07.
BY COMPANY—RANGE, 100 YARDS.			
Co. II, 25th Infantry.	Per cent. of hits, 100.	Co. G, 8th Cavalry.	
	Per cent. of score, 76.41.		84.61.
			58.39.
BY INDIVIDUAL—RANGE, 100 YARDS.			
Sergeant Patrick McNamara.		Private James Hunter.	
Co. D, 10th Infantry.	Per cent. of hits, 100.	Co. I, 24th Infantry.	
Corporal Benjamin Otten.		Private Benjamin Davis.	
Co. B, 20th Infantry.	Per cent. of hits, 100.	Co. G, 25th Infantry.	
	Per cent. of score, 89.		0.
	Each making 89 out of a possible 100.		

(Circulars 25, Dec. 9, and 26, Dec. 28, D. T.)

Enlisted Men Sentenced to Confinement.

Six Months.—J. Flynn, D. 17th Inf.; D. Ackley, F. 3d Cav.; T. Foster, G. 11th Inf.; R. O'Neil, F. 3d Cav.; P. McKean, E. 2d Inf.; T. Mickman, A. 2d Art.; W. H. Boyd, B. 2d Art.; E. Murray, F. 10th Inf.; P. Fitzgerald, C. Gen. Rec. Ser.; H. Nixon, E. 21st Inf.; H. Schipper, K. 1st Cav.

Eight Months.—E. O'Dowd, G. 8th Cav.

Ten Months.—G. Young, D. 3d Inf.

Eighteen Months.—U. E. Kirby, II, 3d Cav.; R. S. Packard, B. 23d Inf.; C. Gerdes, A. 2d Inf.

One Year.—D. Fitzgerald, I. 2d Art.; A. Jones, D. 17th Inf.; W. Syble, A. 7th Cav.; G. H. Buck, G. 7th Cav.; H. A. Brown, G. 7th Cav.; P. Doyle, H. 7th Inf.; J. Corcoran, I. 30th Inf.; J. Walder, K. 2d Art.; J. Cummings, F. 20th Inf.; W. Quigley, E. 15th Inf.; F. Whitmore, B. 21st Inf.; W. Shedd, L. 4th Art.; F. S. Fuller, L. 4th Art.; W. H. Williams, D. 5th Art.; C. Gilbert, C. 4th Art.; H. S. Simmons, I. 8th Inf.; L. M. Medill, M. 1st Cav.

Two Years.—J. Bradley, C. 1st Cav.; F. Wygant, C. 8th Inf.; W. West, D. 3d Inf.; E. T. Spring, B. 6th Inf.; W. Duerling, D. 3d Inf.; J. Dougherty, A. 7th Cav.; G. Peyton, A. 4th Cav.; P. Hansen, C. 3d Art.; W. Kitter, E. 8th Cav.; F. Leach, E. 8th Cav.; F. Sherwood, F. 4th Art.; J. M. Pollock, L. 6th Cav.; E. S. Shattuck, K. 4th Art.; E. Betts, K. 4th Art.; T. Thornton, A. 2d Art.; H. Henze, Recruit, 21st Inf.; J. J. Dougherty, I. 8th Inf.; J. Wessel, Band, 18th Inf.; J. Doyle, B. 1st Cav.

Three Years.—S. Adams, B. 21st Inf.; J. A. Henderson, C. 6th Inf.; F. R. B. B. 1st Inf.; T. G. M. Kinley, E. 7th Cav.; J. Shuster, A. 7th Cav.; J. Lawrence, F. 2d Cav.; E. F. Hall, F. 2d Cav.; R. McChesney, K. 21 Cav.; C. T. Alexander, K. 1st Art.; G. C. Stuart, G. 1st Art.; F. Ellison, E. 8th Cav.; F. L. Lester, II, 7th Inf.

Four Years.—J. Bry, D. 4th Art.; W. Studley, K. 2d Cav.; C. Jones, L. 5th Cav.; J. Durkin, A. 2d Cav.

Five Years.—G. Streit, D. 17th Inf.; F. P. Keefer, C. 7th Inf.; J. Leonard, A. 21 Inf.; J. L. Stevens, G. 3d Cav.; W. M. Snook, F. 5th Inf.; J. Lawler, A. 4th Inf.; E. Osborne, I. 1st Art.; W. E. Farrington, B. 1st Cav.; H. Moor, F. 8th Cav.; J. J. Fred, F. 14th Inf.; J. Monroe, E. 22d Inf.

Fifteen Years.—F. David, D. 4th Cav.; J. S. Kelly, D. 4th Cav.

Enlisted Men Released from Confinement.

L. F. Case, G. 3d Cav.; G. L. Estrange, B. 4th Art.; E. Delporte, I. 1st Cav.; F. McDonald, L. 6th Cav.; W. Burns, E. 9th Cav.; J. McMullen, E. 11th Inf.; G. Bryant, H. 31 Inf.; R. E. Robeson, K. 7th Inf.; S. Richards, I. 31 Inf.; J. Shermer, A. 6th Inf.; J. A. Burton, B. 7th Inf.; J. Maguire, I. 22d Inf.; H. Wempe, B. 4th Inf.; J. Nichols, C. 8th Inf.

The following named military prisoners, entitled to an abatement of five days per month for continuous good conduct, were discharged from the prison on the dates set opposite their names: Charles Jones, Dec. 2, 1878; Thomas Scott, Dec. 3; S. C. Bickler, Henry Brown, Jesse P. Lane, Henry Conroy, Dec. 4; Thomas McDermott, Dec. 5; James Henry, Grandison McArthur, Patrick J. Rourke, Dec. 6; Joseph Oehl, Dec. 15; Harris Ballentine, John Cavenagh, James O'Brien, William H. Sinclair, Dec. 27; John H. Brewster, Charles L. Martin, Richard Thompson, Dec. 28; George Robinson, Patrick Sullivan, Dec. 29; Francis Callahan, John Lilly, Felix Sincennes, Dec. 31.

FORT MONROE, VA.—A correspondent of the Norfolk Landmark writes, from this post, Dec. 28: The enlisted men of the garrison gave a ball last night at the Hygeia Hotel, which, notwithstanding the inclement weather, was largely attended, and a very pleasant affair, many of the officers of the garrison being present. The Artillery School band furnished the music, and an excellent supper was provided. A serious accident occurred here on Christmas morning. Mrs. Callahan, wife of Private Callahan, of the 5th Artillery, fell and broke her leg in two places. Surgeon Joseph R. Smith and Dr. Carter rendered the necessary assistance, and the patient is now doing well. A number of the Indians from the Hampton Normal School paid a visit to the Fort on Christmas, and attracted considerable attention as they took the middle of the road and marched in single file, saluting the officers with military exactness. General George W. Getty, commandant, leaves in a day or two for New York to attend a meeting of the Fitz John Porter board, of which he is a member. General Emory Upton will assume command during his absence.

REFRACTORY INDIAN PRISONERS.—A newspaper dispatch dated "Cheyenne, W. T., Jan. 6, 1879," says: Information has been received here to-day that the band of Cheyenne Indians in confinement at Camp Robinson decline to return to the Indian Territory, according to the arrangement of the Interior Department. The Indians—numbering 49 bucks and 100 women and children—have been confined in a large room, and, as the only measure to enforce their compliance with the order, their fuel and food have been shut off. The officers offered to furnish food and fire for the younger children, but the Indians would not allow it. The Indians claim that in the present condition of the weather their removal would be sure death, with the long march which is necessary, and they prefer to die where they are, making the air melodious in the neighborhood of their room with doleful death songs. A company of troops is waiting at Camp Robinson to take them South, and suffering severely. Many soldiers have frozen feet, ears and hands. Many believe that the Indians will freeze or starve before they will consent to return to the Indian Territory.

The employment of the English officers of the gendarmerie in the Tchataldja lines has excited the jealousy of the Turkish officers, and it is stated that a plot was formed against the former which resulted in insults being offered to some of the English colonels.

SOME PERSONAL ITEMS.

NEW YEAR'S night was celebrated by Admiral and Mrs. Porter with a hop.

Mrs. A. S. CROWNSHIELD, wife of Lieut.-Commander Crown. shield, U. S. N., returned home from Europe with her children in the United States ship *Portsmouth*.

BREVET BRIG.-GEN. ORLANDO M. POE, Colonel and A. D. C., who was ordered to report to the Secretary of the Treasury for duty, has left for Kansas City, where he will meet a commission from the Treasury Department, and select the site for the new custom house and post office to be erected in that city.

THE Washington correspondent of the N. Y. Herald argues that Gen. Grant will prove himself a necessity to the Republican party in the next election, and adds: "The Democrats have but few men who could carry the country against Grant. I can think of only three, Bayard, Gen. Hancock, and Randolph, of New Jersey. With either of these they can win, in my judgment, and I don't know of any one else they have."

LIEUT. F. V. GREENE, Corps of Engineers, U. S. A., arrived in Paris, Sunday, Dec. 29, from St. Petersburg, where he has been since the close of the Russo-Turkish war preparing his report upon it. He sails with his sister, Mrs. Day, Jan. 7, his return having been hastened by the death of her husband, Lieut. Murray Day, U. S. N.

MRS. ADMIRAL MULLANY'S New Year reception at the Naval Asylum, Philadelphia, was one of the handsomest of the day. She was assisted by her very interesting nieces, Mrs. W. B. Frailey and Miss Jennie, Frailey, daughter of the late Commodore J. M. Frailey, U. S. N., and by the widely known and accomplished Misses Violet, of New Orleans.

THE officers elect of the American Public Health Association include the following officers of the Army and Navy: Surg. John S. Billings, U. S. A., is first vice-president. Medical Inspector Thomas J. Turner, U. S. N., is a member of the executive committee. Surg. Thomas A. McParlin represents the Army, Medical Inspector Albert L. Gihon the Navy, and Surg. Heber-Smith the Marine Hospital service on the legislative council.

By a unanimous vote the City Council of Cork refused to follow the precedent of other towns and give Gen. Grant a reception, the reason being his supposed anti-Catholic sympathies. Everywhere else throughout Ireland Grant has been received with the greatest enthusiasm. At Belfast Minister Noyes made a hit in his speech when he said that Gen. Grant showed his appreciation of Belfast men by appointing A. T. Stewart, of Belfast, Secretary of the Treasury, and offering George H. Stuart, a Belfast boy, the portfolio of Secretary of the Navy.

ONE of our exchanges publishes a letter of Winfield Scott's, dated Petersburg, August 5, 1869, which is now in the possession of Gen. John Hammond, Crown Point. It is occupied with a long explanation of the circumstances attending his sale for \$500 of a negro boy. He then goes on to say: "I received the purchase money at three several times during the month of April, but did not transmit because I had used part of the first payment and was waiting for the first week in May, when I was to receive my pay as captain, but before I got it I received two challenges in one day and had to make an immediate settlement of my 'worldly affairs.'"

A SPECIAL telegram to the Pioneer Press from Bismarck, D. T., December 30, says: "That sworn statement of Capt. Thomas B. Weir on the Custer fight was made to O'Kelly, of the New York Herald, in a tent on the banks of the Yellowstone. It was given under the seal of secrecy not to be used until Weir was dead. O'Kelly gave the statement to Whitaker. Weir went out without orders with his company to look for Custer. When he was half way back Lieut. Hare arrived with an order from Reno to go to Custer's assistance. Weir said it was a useless attempt and returned with his command. Lieut. Edgerly was with Weir and will so testify. The officers of the 7th Cavalry summoned to the Chicago inquiry, are Capt. Beuten, French, Moylan, and McDougall; Lieuts. Hare, Varnum, De Rudio, Edgerly, and Wallace."

AMUSEMENT has been provided for the Parisians by an incident which occurred the other day. It seems that in 1871 Col. Rauffremont and M. Albert Duruy, a simple volunteer of Turcos, were fellow prisoners at Bonn. They had a dispute, and M. Duruy challenged the colonel. He was willing to fight, but owing to the difference of rank did not feel justified unless three colonels should allow him. They refused. When the war was over Duruy renewed his challenge in Paris. Col. Rauffremont still declined, on the strength of the three colonels. M. Duruy then wrote a letter to the Jockey Club, of which Col. Rauffremont is a member, saying he would take the law into his own hands the first time he met him. The opportunity was long in coming, but it came at last, and the other day M. Duruy, who is the son of an Imperialist Minister of Public Instruction, seeing the colonel in the street, assaulted him and knocked him down.

OF the hanging of Spencer and his mates for mutiny on the *Somers*, the New Hampshire Gazette says: "We have no doubt that the three men who were put to death were scoundrels, and richly deserved their fate, and that it was an excellent thing to do to kill them; but that there was the most remote necessity, so far as the safety of the vessel and her officers was concerned, for the good work being done when and in the manner it was, to us always did and always will appear ridiculous to the very last degree. With the three ringleaders in irons and with abundant force to put in as many more as he liked, and backed by the numerous officers of a man-of-war and the tremendous moral power of supreme legal authority, the commander of the *Somers*, in any degree fitted for his position, was in no more danger of losing his life or his vessel from the Spencer mutiny than from lightning coming up from Davy Jones' locker. The talk about the three mutineers being unjustly put to death, very probably is twaddle; the talk about the 'heroism' of Mackenzie and his officers in putting them to death, most certainly is twaddle, and of the most absurd brand."

CALDER CUSHING died at his residence in Newburyport, Mass., Jan. 2, aged 79, having been born Jan. 17, 1800. He served in Congress several terms, commencing in 1835, having previously been a member of the Legislature of Massachusetts. He was appointed Minister to China in 1843, and embarked from Washington on the new steam frigate *Missouri* and was accompanied by the frigate *Brandywine*, the sloop-of-war *St. Louis*, and the brig *Perry*. In *Brandywine*, the sloop-of-war *St. Louis*, and the brig *Perry*, coming up to Washington to take the Minister on board, the *Missouri* ran on an oyster bank and fifteen of her crew were drowned.

She afterwards took fire at Gibraltar and was burned up. Thence Mr. Cushing was compelled to go to Bombay in British vessels, and when he reached that port the *Brandywine* alone was there, the *St. Louis* and the *Perry* being detained at the Cape of Good Hope. Making the best of circumstances, the Minister sailed in the frigate to the nearest port to Canton, where he spent a considerable time in futile efforts to reach Peking with the consent of the Chinese authorities. A commissioner was sent to sign a commercial treaty with him, and so there was no excuse for an American squadron entering the rivers of China. He served during the Mexican war as colonel and brigadier-general. He has since been Mayor of Newburyport, a Judge of the Massachusetts Supreme Court, Attorney-General under Pierce, and Minister to Spain, appointed by Grant in recognition of his services as counsel before the Alabama Claims Commission.

The question as to how Gen. Reno met his death continues to excite controversy. Mr. Edward H. Neill, who was Brevet Colonel and A. A. G. on Reno's staff, reports the General as saying: "I am shot by my own men; it is hard." "After the body was stripped, Col. Neill inquired of both of the surgeons present which side the ball had entered, and they replied that it was on the right side, which went to prove that he had been shot by one of his own men, as the firing from the enemy proceeded from the left, and which should set at rest all reports to the contrary." C. W. B., Piqua, O., a member of the 11th Ohio Vols, says, in a letter to the *Meamie, O., Democrat*: "Gen. Reno passed along by us, and seemed to be in a terrible rage about something, and remarked in a voice loud enough to be heard by almost the entire brigade, 'The Kanawha division are d—d Western s—s of b—s, and can't fight.' I heard these words as plainly as I ever heard any in my life, and there are hundreds of the boys who served in our brigade who will remember them. I have learned since that Gen. Reno was very abusive to the 23d the night before, because they used some wheat straw for bedding purposes. Of this, however, I cannot speak from personal knowledge. Of the others I can and do. After the battle of South Mountain was over, it was the common talk of our camp that a soldier in the 23d had killed Reno. The matter was kept quiet officially for many reasons, but as to the facts as I have narrated, I think there can be no reasonable doubt. I mean that the killing was purposely done. All the attending circumstances sustained this statement. Gen. Reno was not a popular officer with the volunteers. He was an old Regular Army man, haughty and tyrannical in disposition. He was a good officer speaking in a military sense, but his death did not occasion much regret among the men. If, as Gen. Sturgis says, his last words were: 'I can be no longer with my men; let them know I will still be with them in spirit,' I think he expressed a sentiment not generally shared by the Kanawha division at that time."

CONGRESS.

CONGRESS resumed its session on Tuesday, January 8th, after the holiday vacation. The following communications from the Secretary of War were presented and referred to the Military Committee of the House: A statement by Col. Benton, Ordnance Corps, of the expenditures at the Springfield Armory; letter from Lieut.-Col. John R. Brooke, 3d Inf., relative to the present status of laundresses in the Army; letter from Captain and Brevet Lieut.-Col. R. N. Scott, relative to the manner and cost of publishing the Rebellion War Records; letter from Lieut. Allen Dupont, First Artillery, recommending an issue of clothing to enlisted men in lieu of that lost at Fort Trumbull; letter from Maj Gen. Irvin McDowell, U. S. A., proposing a change in the 104th article of war; also, a letter recommending the purchase of Confederate records, referred to the Committee on Appropriations, and the report of Colonels Macomb and Ludlow, Corps of Engineers, on the improvement of Delaware River. Referred to the Committee of Commerce.

Mr. Harris introduced a bill (H. R. 5752) providing for the establishment of a board of assistants for the Navy of the United States, and for other purposes. Referred to the Committee on Naval Affairs.

Mr. Luttrell introduced a bill (H. R. 5724) to appropriate \$764,800 for the Mare Island Navy-yard improvements. Referred to House Naval Committee.

Colonel Scott states that the publication of the War Records for the period ending December 31, 1861, can be made in eight octavo volumes of 800 pages each, and that the cost of composing and stereotyping, if done at the Government Printing Office, would not exceed \$9,000. No estimate of further cost is made.

Colonel Benton's report was his answer to the memorial of the Association of Manufacturers of Arms, Ammunition, and Equipments, which gave \$115 as the average cost of each Springfield rifle made in 1877, and stated that there were private arms-manufacturing companies in this country which would contract to make Springfield rifles, identical with those made at the National Armory, for \$15 each. In making up their figures to ascertain the average cost of manufacturing a rifle at Springfield, the memorialists placed the reported value of the National Armory at \$7,000,000, and assumed that that amount of capital is invested for the special purpose of manufacturing arms. Col. Benton states that the figures given include the stock of field artillery, small-arms, munitions, etc., now stored at the armory, some of the small-arms stored being those which were purchased during the Rebellion from the manufacturers who join in the memorial. Col. Benton also states that the year 1877 does not fairly represent the production of arms at the armory. He gives the aggregate production for the five years ending June 30, 1878, which shows an average yearly production of over 18,000 *and* of arms, instead of 7,000 as stated by the memorialists, which would place the cost of each rifle at \$38.61, instead of \$115. He furnishes tables showing the number of rifle muskets produced at the armory during the rebellion, and the average cost per rifle, which was \$11.70; also tables showing the number of rifles of the Springfield pattern purchased from private parties during the same period, the average price of which was \$30. As the Government manufactured over 800,000 muskets during the rebellion, he claims that the saving to the United States from 1861 to 1865 was about \$7,500,000, or a sum more than twice the entire cost of the Springfield Armory since its establishment.

A MILITARY Academy is being formed at Sofia for the province of Bulgaria, and will, according to the Berlin correspondent of the *Morning Post*, be placed under the command of a Russian officer, Captain Fieischer.

THE NEW ARMY BILL AND THE ORDNANCE CORPS.

To the Editor of the Army and Navy Journal:

SEN: In the new Army bill as reported to Congress, Sec. 586—which is the first under the head of Ordnance Department—startles all practical men with the following prohibition: "Hereafter ordnance and ordnance stores shall not be fabricated by the Government." It must be remembered that "ordnance and ordnance stores" include every article used by armies in peace and war, except food, clothing, lodging, and medicines, and the means of transportation of men and stores. The present is the first instance known to history, where a government proposes to forbid itself, by law, to use its own shops, now fully equipped to make all these stores (except cannon) for its own advantages. It must, indeed, excite special wonder that such prohibition could be thought of, unless for cause of failure on the part of Government shops to do the required work.

It is believed, however, that the work now performed in our arsenals is proverbially praised, by citizen and soldier, for its good quality in material and workmanship and the reasonable cost of the articles manufactured when compared with like articles on sale which are manufactured by private individuals.

Our National Armory has for years been as well known abroad as at home, as an establishment so well conducted and of such a high order in equipment and product, that it served England as her guide in establishing Enfield. It has been visited, for years past, by officers of all the leading armies of the world, because of its professional value as the foremost establishment possessing complete machinery for the manufacture of all the parts of small arms, upon the "interchangeable plan." Why then prohibit the Government from using this establishment in fabricating arms and munitions of war for Government use? General Burnside gives his answer to this question in his address to the Senate on December 20, as follows:

It must be manifest to every one, that action of this kind will stimulate the invention and manufacture of arms throughout the country, and that under this system the Government can more readily supply itself with sufficient arms in case of an emergency, than it could under the present system.

Stopping at this point in General Burnside's explanation, it must be asked: "Is there at present an emergency requiring the Government to 'stimulate' private manufacturers of small arms?" If not, is such stimulation advisable now? To start one private arm's factory, upon a new pattern of arm, requires a large outlay and the assurance of several years' work. Experience has shown that the Springfield armory is able to manufacture one thousand arms per day, if necessary. Its manufacture, however, has been limited by the small appropriations made by Congress, for some years past, to about ten thousand arms per annum.

Congress, by a law passed June 6, 1872, required that a board of experienced officers should adopt a "breech-loading system for small arms before any were made, and that the system, when so adopted, should be the only one used by the Ordnance Department." Under this law, still in force, the present Springfield system was adopted after a thorough trial of every system then known in the world, and was approved, after trial in service, by nine-tenths of the companies. This system, wherever used by properly drilled men has been declared satisfactory. It has also been approved by experienced hunters in the west, by the marksmen at Creedmoor, and, as recently reported by commanding generals, by the troops generally, at the prescribed drills in the Military Departments.

Until it is decided that a sufficiently large number of arms is to be immediately ordered by the Government to guarantee work to manufactories throughout the country (the number to be thus nursed into strength has not been stated) would it not be premature to pass this prohibition against the manufacture at Springfield of the arm now in use? If the Springfield gun is to be condemned and changed, the workshops and experienced workmen of the Springfield armory will be required to get up gauges and patterns for the new arm, and if like time and care are to be devoted to the selection of the new model as was used in selecting the Springfield gun, some eight months' constant practice by the Government trial board will also be necessary—for all of which the new Army bill fails to provide.

To meet the question as to the comparative quality of arms made by the Government and by contractors, General Burnside offers the following explanation:

To say that the arms procured by the Government in this way will not be as serviceable as if manufactured by the Government, is to say that ordnance officers will become less expert as inspectors under the new system than under the old, which I cannot believe. No badly manufactured arms will be received by the Government of the United States, except by the neglect, incapacity, or dishonesty of the inspecting officers.

This apparent compliment to officers of the Ordnance Department, expressed by General Burnside, sounds almost like mockery, when it is remembered that he has himself had considerable experience in the details of contract arms work, and knows the immense influence of the Government workshops in educating workmen and masters, and especially sub-inspectors, to be employed upon contract work. Supposing the Government shops were closed, where could our sub-inspectors be suitably instructed? In private shops the ordnance officer would not be able to purchase the most suitable material, hire the workmen, nor instruct the masters as to the best methods of working the different varieties of metals necessary for the manufacture of arms. Could he, therefore, be as "expert as an inspector" as he would be if he had the entire control of these particulars? If he could neither educate himself nor his sub-inspectors in a trustworthy school, like the Government arsenal shops, how could it be charged that bad work on contract would be necessarily due to dishonesty, neglect, or criminal incompetency?

Is it not the fact, that without a Government workshop in progress, at least sufficient to manufacture a portion of all such stores as must be contracted for before manufacture, the Government never could be certain of receiving the most suitable returns for its expenditure, either as to material or workmanship, for stores made by contract.

Persons do not generally think how much greater security, the purchaser in open market has, as to the quality of articles desired, than is possible where a contract is made with one manufacturer to fabricate and deliver at some future day. Government supplies are not generally to be found in open market. They can only be obtained by fabrication after agreement as to quantity and price and time of delivery. Unless competent men who are familiar with every process, and who know where to look for defects and injuries arising from unskilled workmanship or the use of improper material, are employed during every stage of the manufacture, to supervise and inspect the work, there will necessarily be efforts, frequently successful, to save cost by using inferior material or concealing defects, either accidental or due to the ignorance of workmen—and this not always from deliberate intent to defraud by the contractor. Unless the inspectors were instructed in Government shops—where only the desire to manufacture the very best of everything prevails—how could they know all the tricks of trade?

If General Burnside had himself thought his explanation so satisfactory as to warrant the adoption of section 586 of the new Army bill—which section forbids the manufacture of ordnance and ordnance stores by the Government—why did he recommend the adoption of section 409, which directs "that the Secretary of War shall determine the kind and amount of all munitions of war, or military stores and equipment, or other supplies, of whatever description, that are to be purchased, or fabricated, by the several departments and bureaus of the staff, or by the corps of engineers?" Are not ordnance stores munitions of war? Why then should not the Secretary of War be invested with the same authority as is granted by section 402, regarding their purchase or fabrication? Does not General Burnside thus proclaim that the "association of manufacturers of small arms" is alone entitled to the sympathy of Congress, and that when the "stimulating" commences, he feels no care to pass the Government bottle to the other manufacturers of the land?

There is another point in the proposed bill which, in our opinion, is proof of the influence of interested individuals rather than of the wise search for a plan for the advantage of the Government. It is to be supposed that each corps of the Army, artillery, cavalry, and infantry, as well as the ordnance corps, has special functions that are best executed by those assigned to each, having the most experience, and being best instructed. Every military man knows that it is essential to the best interests of a company of any corps, whether for its value to the Government or for the personal advantage of its members, that each captain should be as much as possible with his company; and this bill in section 228 proves its source from an experienced soldier, in requiring "that except for urgent reasons, captains shall not be detailed upon duties separating them for any considerable time, from their companies." Yet in (dis-)organizing the Ordnance Department, artillery captains and first lieutenants, not exceeding thirty, are to be detached from their corps duties, for three years' assignment, each, to ordnance duties. Captains of artillery are already beyond the age to commence instruction as ordnance officers, so as to benefit the Government; hence, this section should be altered so as to limit the selection to first lieutenants only, and after competitive examination, as is the rule at present. These first lieutenants would in time become captains, instructed in ordnance duties, provided the arsenal shops were not dismantled and used only as store houses for contractors' boxes. Should such dismantling take place, it would be hard to surmise what professional instruction could be given to any officer at an arsenal.

At the present time the Government has in its service twenty captains of ordnance accustomed to arsenal duties, too old to be of as much service to the Government in a new business, as in their present positions; well instructed and competent as assistants, or for command; and, who have been induced to devote themselves, for the last ten or twelve years, to ordnance duties, because they deemed the ordnance corps their fixed profession. These men this bill proposes to disband, or appoint to regiments, in order to make room for the detail of regimental officers. Is this a wise way to get competent men for the Government service? Is this the just way to make good Army officers? Is it not as unfair as it is unwise?

We have heard it suggested, as the claim of regimental officers, that they should have a trial of each class of duties to which graduates of the military academy are assigned, except those of the engineer corps. Why should not this exception extend also to the ordnance corps? Some few of the captains and 1st lieutenants (thirty in all) individually might find slight advantage, in being thus separated from their regular corps duties for three years at a time, but surely, the Government would be the sufferer in losing the professional services of good captains of ordnance appointed by selection from first lieutenants of artillery, after service as artillery officers, and experience in ordnance duties.

Why, too, should the ordnance soldiers, enlisted and educated for these special duties, be disbanded, and companies of artillery, inexperienced and ill disciplined for arsenal duties, be stationed for three years at arsenals—to their own detriment, certainly, as artillerymen—where they would be less useful than the present ordnance men, now serving, most advantageously for the Government, as guards, and for special ordnance labors and police?

P. V. HAGNER, Colonel of Ordnance Corps.

THE NAVY.

RUTHERFORD B. HAYES, *President and Com'dr-in-Chief*
 RICHARD W. THOMPSON, *Secretary of the Navy*.
 JOHN W. HOGG, *Chief Clerk*.

BUREAUS OF THE NAVY DEPARTMENT.

YARDS AND DOCKS—Commodore Richard L. Law.
 NAVIGATION—Commodore William D. Whiting.
 EQUIPMENT AND RECRUITING—Commodore Earl English.
 ORDNANCE—Commodore Wm. N. Jeffers.
 MEDICINE AND SURGERY—Med. Director J. Winthrop Taylor.
 PROVISIONS AND CLOTHING—P. M. General Geo. F. Cutter.
 STEAM ENGINEERING—Eng.-in-Chief Wm. H. Shook.
 CONSTRUCTION AND REPAIR—Chief Constructor John W. Easby.

FLAG OFFICERS AFLOAT.

EUROPEAN STATION—Rear-Admiral W. E. Le Roy.
 ASIATIC STATION—Rear-Admiral T. H. Patterson.
 PACIFIC STATION—Rear-Admiral C. R. P. Rodgers.
 SOUTH ATLANTIC—Rear-Admiral Edw. T. Nichols.
 NORTH ATLANTIC—Rear-Admiral Jno. C. Howell.

FLAG OFFICERS ON SHORE DUTY.

NAVAL OBSERVATORY—Rear-Admiral John Rodgers, Supt.
 NAVAL ASYLUM, PHILADELPHIA—Rear-Admiral J. R. M. Mullany.

NAVAL ACADEMY—Commodore Foxhall A. Parker.

COMMANDANTS NAVY YARDS AND STATIONS.

Commodore E. B. Colbourn, Mare Island.
 Commodore George M. Ransom, Boston, Mass.
 Commodore J. W. A. Nicholson, New York.
 Commodore John C. Feibler, Washington, D. C.
 Commodore J. Blakely Crelighton, Norfolk, Va.
 Commodore Pierce Crosby, League Island, Penn.
 Commodore John Guest, Portsmouth, N. H.
 Captain George E. Belknap, Pensacola, Fla.
 Commodore Edward Simpson, Naval Station, New London, Ct.
 Commodore Geo. M. Ransom, Naval Station, Port Royal, S. C.
 COMMANDANT MARINE CORPS.
 Colonel Commandant, Charles G. McCawley.

VARIOUS NAVAL ITEMS.

THE *Portsmouth* left the Navy Yard, New York, for Hampton Roads on the 7th Jan.

THE *Richmond* expects to get away about Saturday next.

THE finding of the court in the case of Major Dawson, U. S. M. C., has not yet been promulgated.

LIEUT. COMMANDER D. C. KELLS, U. S. N., is to be tried by court martial at New Orleans. Capt. Clark H. Wells is detailed as a member of the court.

THE Russians are quietly increasing the armaments of Poland, and particularly of strategical points near the Austrian frontier.

"His Serene Highness," Prince Edward of Saxe-Weimar found it necessary to report a commander for not having saluted him in the streets of Portsmouth.

IN pursuance of an act of Congress approved Dec. 12, 1878, Commander Wm. Gibson, now on the Retired List, was nominated on the 8th of Jan. to be a Lieutenant Commander on the Active List, to rank from July 26, 1862, and to take position next above Lieut. Commander Henry Glass. He was at the head of the list of Lieut. Commanders when he was retired, and this nomination restores him to that position.

AT the request of Rear Admiral Le Roy orders were issued last week for his detachment from the command of the European station and return to his home. It is now stated that Rear Admiral John C. Howell, at present commanding the North Atlantic station will be sent out to take command of the European station. Rear Admiral R. S. Wyman, who is not on duty at present, and has not had command of a station, will in all probability take the place of Rear Admiral Howell.

THE *Charlestown News* says: Through political manipulations the paltry pittance apportioned to carry on the various departments of labor at this yard is so eaten up by full time favorites, and high salaried sinecures, as to make insignificant the sum left for skilled labor and muscle. It is shameful to see the fine buildings at this navy yard, actually going to ruin, for suitable repairs, although the holes in the roof of the ropewalk may serve as a protection against pedestrians falling into the holes in the floor inside.

THE Delaware at League Island, and for ten miles below, is frozen from shore to shore. The yard tugs have not been able to run for two weeks, and all communications with Philadelphia is necessarily by land. The extreme cold caused one of the injection valves of the *Dictator* to freeze up and burst, and but for timely discovery, the ship might have sunk at her wharf. The shallow pond which supplies water to the reservoir froze solid, and to be prepared for a fire emergency, it was necessary to dig a ditch to the back-channel, a distance of two or three hundred yards. In doing this, the workmen struck a pool full of fish, which, being chilled and sadly in need of air, came to the surface and were easily caught by hand, thus giving each a mess to carry home in his dinner-kettle.

AT a meeting of the naval officers held Saturday evening, Jan. 4th, at the Navy Department, and which we announced, a branch of the United States Naval Institute was organized. The following officers were elected for the ensuing year. Vice President, Rear Admiral John Rodgers, U. S. N.; Corresponding Secretary, Lieutenant John H. Moore, U. S. N., and the following committee on papers: Captain S. R. Franklin, U. S. N.; Medical Inspector T. Turner, U. S. N.; and Professor Simon Newcomb, U. S. N. This is the first branch of the United States Naval Institute ever established. The members belonging to it were admitted at the meeting of the Naval Institute held at Annapolis this week.

THE coast survey steamer *Blake*, Commander John

R. Bartlett, U. S. N., commanding, was at Kingston, Jamaica, December 22, and at Saint Thomas January 1. In running from Key West to Jamaica the new inventions of Lieutenant Commander C. D. Sigbee, U. S. N., were given a good trial, and were found to work well in every particular. As we have said before, the inventions of Mr. Sigbee will almost entirely revolutionize the science of deep sea work, and now that they have been given a fair trial there is no longer any doubt about the matter. The *Blake* travelled some sixteen times in from 250 to 1,500 fathoms, and were fortunate in the discovery of several new species of *fauna*, which gladdened the heart of Professor Agassiz. In travelling it was found that three men could do the work, while heretofore it has taken over a dozen, and even then they were obliged to use the crow-bar quite often to get the kinks out of the wire rope and to make it run evenly on to the drums. Later we hope to give fuller details of this most important work.

THE House Naval Committee this week examined a number of experts, called at the instance of Mr. Wood, ex Chief of the Bureau of Steam Engineering, United States Navy, to refute the charge of having used an obsolete form of boiler in the Naval vessels—namely, those known as water-leg boilers. Messrs. Farran, consulting engineer for John Roach and the Morgan Iron Works; Erastus W. Smith, superintendent for the Providence and Stonington Steamboat Company; David Smith, Chief Engineer United States Navy, and B. F. Garvin, Chief Engineer U. S. Navy, all testified to a preference for the water-legged boilers, on account of durability and facility for repair. The difference between the cost of water bottom and water-legged boilers was not material. Eng.-in-Chief Wm. H. Shook said his impression was that the boilers taken from the *Towa* and put in the *Ticonderoga* were not very good. The boilers of the *Powhatan* were intended for the *Colossus*; thought them very good now that some \$4,000 or \$5,000 had been expended in their repair. The Martin boiler, used during the war, was now obsolete; would not use the water-legged boiler in a wooden vessel; would not object to it in an iron vessel; was clearly of the opinion that it was better to go to the most reliable men and purchase in open market than to advertise. A better article was obtained and more economically. Wm. H. H. Smith, chief clerk of the Bureau of Steam Engineering since 1872, was examined as to the mode of procuring supplies for the Bureau, and testified that Mr. Wood's purchases were in compliance with the orders of the Secretary and the usage of the Navy Department. Witness believed the plan of purchasing in the open market supplies as wanted was preferable to advertising for proposals, and was more advantageous to the Government. Chief Eng. Henry D. Stewart, U. S. N., was examined at considerable length in regard to condemnation of certain material at the Boston Navy-yard by a Board of Survey of which he was a member, and reiterated his confidence in the correctness of the report of the Board.

NAVY GAZETTE.

ORDERED.

JAN. 4.—Passed Assistant Surgeon John C. Boyd, to the New Hampshire, at Port Royal, S. C.

JAN. 6.—Passed Assistant Surgeon C. H. H. Hall, to duty at the Naval Hospital at the Navy-yard, Mare Island, Cal.
 Passed Assistant Surgeon P. A. Lovering, to the training ship Minnesota, at New York.

DETACHED.

DEC. 27.—Lieut. F. Aug. Miller, from the Portsmouth, and ordered to report in person at the Department.

JAN. 8.—Commander Robert L. Phyllian, from special duty connected with the New York Nautical School on January 15, and granted six months' leave.

JAN. 4.—Passed Assistant Surgeon W. A. McClurg, from the New Hampshire, and ordered to duty at the Naval Hospital, Washington.

JAN. 6.—Passed Assistant Surgeon N. McP. Forebee, from the training ship Minnesota, and placed on waiting orders.

JAN. 7.—Lieutenant Albert S. Snow, from the Navy-yard, Boston, on the 15th January, and ordered to the Portsmouth as executive.

Lieutenant A. J. Iverson, from the Powhatan, and ordered to duty at the Navy-yard, Boston, on the 15th January.

Gunner Geo. Dunn, from the Navy-yard, Washington, and ordered to the Plymouth.

JAN. 8.—Lieutenant H. E. Nichols has reported his return home, having been detached from the Supply, at Havre, France, on the 21st December, and has been placed on waiting orders.

Lieutenant A. Ross, from the command of the Wyandotte, and ordered to the Portsmouth, at Norfolk, Va.

LEAVE OF ABSENCE GRANTED.

To Lieutenant Samuel Belden, for three months.

To Assistant Engineer R. R. Litch, attached to the Bureau of Steam Engineering, for thirty days from January 8.

To Lieutenant-Commander C. M. Anthony, commanding the Manhattan for two weeks.

To Master A. H. Cobb, for three months from January 4.

REVOKED.

The orders of Acting Gunner Patrick Lynch to the Plymouth and placed on sick leave.

RESIGNED.

Ensign Charles W. Haskell, to take effect March 28, 1879.

DELAY REPORTING.

Commodore George M. Ransom has been ordered to delay reporting for the command of the Navy-yard, Boston, until February 15.

CHANGES IN THE MARINE CORPS.

ORDERED.

DEC. 30.—Second Lieut. Andrew Stevenson, to proceed to Mare Island, Cal., January 7, and report to the commandant of that station for duty at the Marine Barracks.

JAN. 9.—As members of the General Court-Martial to convene at New Orleans January 15 for the trial of Lieutenant-Commander De Witt C. Kells: Commodore Chas. H. Baldwin, Capt. Clark H. Wells and Wm. P. McCann, Commanders Byron Wilson, John F. McGlenney, J. J. Read and Chas. McGregor, Captain Henry A. Bartlett, Marine Corps, Judge-Advocate.

DETACHED.

JAN. 2.—Second Lieutenant L. O. Webster, from Washington, D. C., and ordered to Norfolk, Va.

ARMAMENT OF OUR FORTIFICATIONS.

THE South Boston Iron Co. and the West Point Foundry have recently united in presenting to Congress memorials, with data showing the necessity of having at least two foundries kept in perfect working order for manufacturing heavy ordnance. "From the date of their existence these companies," the memorial truthfully says, "have kept pace, not only with the wants of the Government, but of all the modern requirements of artillery. In support of this assertion, reference is made to the official reports submitted from time to time by the accredited officers of the Government. For the past ten years our works have been comparatively idle, and we have been compelled to submit to a very great aggregate loss in order to maintain the expensive plants upon which the Government absolutely depends at present for the proper defence of its coasts and ships of war."

"For ten years," they continue, "we have been suffering heavy losses in interest, taxes, and wages paid to skilled workmen, in order to have our machinery and a competent manual force at our command at all times. This loss we should not have allowed to continue if we had not had, from year to year, reason to expect sufficient orders from the Government to justify our waiting. There is, in fact, but one large rifled gun in the possession of our Government to day (the 12 inch rifle which General Benét speaks of in his report for 1878). This one large gun, it must be admitted, is quite inadequate for the defence of our seaboard cities, and of our thousands of miles of coast.

"Moreover, it should not be forgotten, that while fortifications may be improvised in an emergency, it requires many months to fabricate and suitably test a heavy gun. If all the gun-making machinery at present available in this country were employed, day and night, it is doubtful if the number of heavy guns at this moment wanted to arm the fortifications now ready to receive guns, could be supplied within a period of at least five years. Other foundries than ours might be set in motion, but those that existed during our late war, with the exception of the South Boston and West Point, have converted their machinery to other purposes, and are practically no longer in existence as manufacturers of ordnance. We desire, if possible, to continue our works. It will be better for us to do it, even with small profits to our treasury, rather than sacrifice our costly machinery and special business facilities, which have accumulated in an experience of seventy years. It is equally important to the Government to preserve our plants, which could not be recreated without a large expenditure of time and money.

"As for ourselves, we have no alternative, and therefore frankly admit that if the policy of the Government is to permit our seacoast to remain in a defenceless condition, so that we cannot have reasonable employment to justify the continuance of a plant of three quarters of a century's growth, and the keeping in employment of men of special technical knowledge, we shall be compelled to change the character of our pursuits, convert or dispose of our machinery, and abandon our occupation as manufacturers of ordnance. Not only will expediency force us to this course of action, but necessity as well. We earnestly hope that Congress will not leave the country defenceless, nor compel us to submit to a sacrifice of property that must indirectly, at least, affect the immediate interests of all the people.

"The failure of Congress to take note of the real situation is of course unintentional. Men of intelligence and patriotism are not likely to deal carelessly with a question so vital as the maintenance of the public defences, nor will they suffer the country to fall behind other nations in the discovery and application of valuable improvements in the methods of warfare."

These considerations appeal to Congress for prompt action to save us from the disgrace of being left without a single foundry in this country, capable of supplying us with the heavy guns so imperatively needed. The fact that the appeal comes from private manufacturers who are to profit from the action of Congress, does not lessen the force of their argument and the facts they present. 582 guns are wanted immediately for the ports in New York Harbor alone, and in 1874 (since which little has been done), the Engineers reported that the fortifications in the various harbors of the United States were prepared to receive about 4,000 guns of large calibre. The further neglect of the important interest of our coast defence on the part of Congress is nothing less than criminal.

THE Junior Naval and Military Club-house in Pall Mall, adjoining Marlborough House, London, has, with its contents, been sold, and will be reopened as a club.

(Contributed to the Army and Navy Journal.)
CONVERSIONS OF GUNS.

An article on this subject in the *United Service*, from the pen of Commodore Simpson, condensed from his report of 1870-72, while taking strong ground in favor of the Parsons' system of conversion (which has nowhere been adopted) finds several serious objections to the Palliser system on which our 11 in. smooth bore guns have been converted to 8 in. muzzle loading rifles.

All conversions, from remodelling an old house to an obsolete cannon, are make-shifts; and the problem is, to obtain the most satisfactory results at the least expense. In the particular case under consideration, I am of the opinion that this has been accomplished by the Bureau of Ordnance adopting the Palliser system.

A few facts and some simple arithmetic will elucidate this proposition, and prove, at least, the entire sufficiency and safety of the conversion.

This gun was designed to fire 1,000 rounds of 136 lbs. shell with a charge of 15 lbs. of powder. It had never been proved to extremity with higher charges. After the fight between the *Monitor* and *Merrimac*, it was contended that if the former had used the full power of her guns, the latter would have been destroyed, which, in the light of subsequent events, is very doubtful. Commander (Admiral) Dahlgren at once commenced the proof of and fired 200 rounds from an 11 in., with charges of 30 lbs. of powder and 168 lbs. of shot; and, on its completion, authorized the writer, who had then command of the *Monitor*, to thereafter use that charge. This gun is still perfectly serviceable. We have here a point of departure from our arithmetical calculations.

Without assuming that our pressure gauges give accurate results, it will, probably, be conceded that they give relative pressures.

The records show that a charge of 30 lbs. of cannon powder in the 11-in. S. B., with shot of 168 lbs., gives about double the pressure per square inch of the surface of the bore that 35 lbs. of hexagonal powder and 180 lbs. shell give in the same gun converted to an 8 in. M. L. rifle. If, therefore, the difference of radius, one and half (1 1/2) inches, was occupied by a malleable tube of no resistance to extension, the strain on the bore would be reduced in the ratio of the surfaces of the new and old bores, or as circumferences; that is, as 25".13 to 34".55, and the tube would only serve to distribute the pressure over the larger area, giving a little over two-thirds the pressure per square inch found in the smooth bore. But the gun is actually lined with a good Ulster iron coiled tube 2 7/8 inches in thickness, having a tensile strength of 40,000 lbs. per square inch which offers its resistance to extension.

It is found on proof that 20 lbs. of powder do not "set out" the tube against the cast-iron wall, so that the real pressure per square inch on the cast iron is that due to about 15 lbs. of the charge. It is, therefore, evident that the tangential resistance has been more than doubled by the insertion of the coiled iron tube.

But Commodore Simpson says the coiled tube is "in the worst possible position to resist transverse strain;" that is, the force tending to blow out the breech, usually called "longitudinal" strain. This is admitted; but, is its assistance at all necessary? According to Rodman, condensed in "Cooke's Naval Ordnance and Gunnery-Art," 288, a cast iron gun one calibre in thickness is three times as strong longitudinally as tangentially. After lining the bore the longitudinal area pressed by the powder cases is 50.26 inches, and the area of the casing receiving the pressure distributed by the tube is 143.1, therefore the stress on the cast-iron is diminished in this ratio.

In the tubed gun the total pressure to blow out the breech is 50.26 X P. The metal to resist this is a section of the breech after boring up for tubing, equal to 661 square inches, and the pressure per square inch = 50.26 P ÷ 661 = .076 P. In the 11-in. gun before conversion, the force to blow out the breech is the area multiplied by the pressure, or 95 X 2 P, (P being the pressure in the rifle), and the metal resisting this strain is a section of the gun across the bore at the weakest part of the breech; that is, the slope of the chamber, equal to 709 square inches, the pressure per square inch being — (95 X 2 P) ÷ 709 = .268 P; and whatever value we may attribute to P, we have found that after conversion we have 268 ÷ 76, representing the increased resistance of the rifle to blowing out the breech. To this we must add whatever support we obtain from the coiled iron tube, which has at least 25,000 lbs. longitudinal strength. But to be entirely safe, we will assume that the pressures are equal in the rifle and smooth bore; we then have 134 ÷ 76 for the relative resistance, or the gun is 1.8 times (nearly double) as strong as before conversion.

In all this there are no hypothetical quantities; but the computations are based on what the gun actually sustained as an 11 in. S. B. After conversion to an 8 in. M. L. R. it has been fired 750 times, and one converted to a 9 in. fired 250 times with charges from 30 to 45 lbs. and shell of 220 to 250 lbs., and yet remain in good condition.

I, therefore, can safely affirm that the 11-in. S. B. as converted to an 8 in. M. L. R. fulfils all the conditions

necessary to perfect safety, and that no useful purpose would be served by transforming them on any other plan at a considerably greater cost. A new gun of greater length and better proportions could be made for the same money. In the bureau designs the question of utilizing the old carriages has also been considered in connection with the conversion.

The question of breech-loading as a method of conversion is next in order.

We are now placed as were the French twenty years ago, with the advantage that our guns are of higher calibre and more effective. They converted their old guns to breech loaders, and made a few new ones of 19 and 24 centimeters for service against the armored ships of the day; but with the growth of the iron-clad system these became inefficient.

In 1870 they designed a new system of cast iron bodies hooped and tubed with steel of calibre 14, 16, 19, 24, 27, and 32 centimeters, which were equal to the requirements of the period. With the increased thickness of armor plating higher velocities were demanded, and in 1878 they resorted to steel.

The method of converting a cast-iron gun by inserting a steel tube from the rear extending to the trunnions has met with remarkable success. It is readily demonstrable that the strength of a cast-iron gun may be trebled by this conversion. According to Captain Sebert, of the French *Artillerie de la Marine*, "it increases to almost absolute security, even against extreme efforts, the resistance to blowing out the breech." Coupled with the tubing they adopted the sectional screw (*vis à filets sectionnes*) now commonly called the French closure. This plan, the invention in 1849 of Mr. B. Chambers, an ingenious mechanic of Washington, was tested by Commanders Farragut and Harwood and Lieutenant Dahlgren, under the direction of Commodore Morris, in October, 1861, with quite successful results. It failed, principally, for want of a suitable gas check, and because hampered by a combination of a fixed cartridge ignited by a percussion lock contained in the movable breech. In this connection I have been unable to find any trace of a mythical "Eastman" as inventor or introducer of the system.

In 1859 it was introduced into France by Colonel Treuille de Beaulieu, where it has been perfected and since adopted by Italy, Spain, Holland, Denmark, and Norway. Armstrong has adopted it in the 12-in. rifle he made for Italy, and in the new high pressure 10-in., 8-in., and 6-in. guns now on trial with the largest charges and highest velocities ever attained with guns of these calibres. A design for converting the 11-in. S. B. to an 8-in. B. L. on this plan has been made, and so far as strength is concerned for that calibre leaves nothing to be desired.

It is an error to suppose that there is any effort "to get rid of as much cast-iron as possible." If there is anything in the theories of initial tensions, varying elasticities, linear and cubic dilatation and compression, molecular interaction, etc., etc., of which we write in books, but of which the practical gun constructor takes little account, the exact dimensions of the tube can be computed. The writer has before him a tabular statement of the elements of the French guns, of which Captain Sebert says: "*Pas un seul accident de rupture n'est survenu*," although in target practice and on board the gunnery-ship between 50 and 60,000 shots have been fired with common and battering charges.

The objection to conversion of our guns to breech-loaders is, that the gun is too short to properly utilize a suitable charge of powder. The Krupp guns run about 23 calibres; the French 21 to 28. Lieutenant Very reports: "The Armstrong 6 in. would be taken for a French gun but for its extreme length." The English guns are 16 calibres, and principally remarkable for their squat appearance. Our 8-in. M. L. R. is also 16 calibres, fires the same charges as, and obtains a little higher velocities than the English. The 8-in. B. L. R. is designed for about 17 calibres. With about 23 calibres higher velocities or less pressures would be obtained.

It is evident that if England intends to take advantage of the recent advance in ordnance, she must reconstruct the whole of her guns. We should do the same.

The writer does not entertain the puerile idea that there are any secrets in the manufacture of steel. The success of Krupp, Firth, Whitworth, Gruson, and other large manufacturers consists in their large capital, enabling them to own or control the mines from which the raw materials are obtained. It may be a long time before we shall produce steel in large masses; but I am quite satisfied that whenever it is demanded the mines and metallurgists of the country will supply it.

While we wait for means to make as powerful a gun as we would wish, we are doing well to continue our conversions on the present economical plan, from which we get as efficient a gun as the old material will admit.

WILLIAM N. JEFFERS.

The occupation of Bosnia has proved a very expensive affair for Austria. According to the *Buda Correspondence*, the total cost of this measure for the present year amounts to 102,710,000 florins, of which the Empire has to pay 70,459,000 florins, and the Kingdom of Hungary 32,250,940. Of the army which entered the provinces of Bosnia and Herzegovina, 3,885 men have been wounded, 666 have been killed, and 235 are missing.

CRITICISMS ON THE BURNSIDE BILL.

We have received some printed "notes on certain sections of the bill reorganizing the Army," which criticise the bill in detail. As to section 4 and 5 there is no good reason, we are told, why A. D. C.'s should receive additional pay. The consolidation of the Adjutant and Inspector Gen. Departments is an experiment, and consolidation of staff corps worked badly in the Confederate army. The engineer corps, which is notoriously the most top heavy, should not be left untouched (sec. 9), and no necessity exists for an increase in the number of engineer companies (sec. 10).

Section 15 takes from the artillery colonels the supervision of instruction in his regiment and gives it to the commanding general, thus destroying regimental esprit. Why make regimental instead of post chaplains (sec. 16), when the companies of a regiment are so seldom together? Sec. 24 will make endless changes and needless expense, when the temporary employment of the different arms indicated can be made without enacting this section. If the Ordnance Department is not to furnish arms, etc. (sec. 589), why have an ordnance corps and arsenals of construction (sec. 29)? Without a full ordnance corps where will we procure thoroughly instructed officers to perform ordnance duty in time of war? Certainly not from the artillery, for that arm will need all its own officers.

Sec. 24 merely confers on the General powers now possessed by the President. Sec. 31 decreases paymasters, while other sections provide additional work for them. The Signal Bureau requires more than double the number of officers provided by sec. 37.

"Sec. 40. Clause 9. This portion of the bill is probably more mischievous than any other, for under it the Army may be revolutionized. It will encourage efforts to remove deserving, efficient officers from their places for the benefit of others who are favorites and have influence. Hence it is dangerous and demoralizing. If transfers are permitted, they should be limited to those only which may be necessary to fill the vacancies caused by the retirement and discharge of officers."

Section 47 conflicts with section 68, and the extra pay allowed some officers at West Point is not needed and is unjust to others there who do not get it though doing more work.

Sec. 76 confers on a military man dangerous power, and unites the sword and the purse. Sec. 77 will require all the officers of the permanent staff to be stationed at Washington. Sec. 81 enlarges the power of the General and interferes with the vested rights of the President. Sec. 82 would enable the General to thwart the wishes of the President, and "is most likely unconstitutional." Sec. 83 imposes an amount of work upon the General beyond any man's physical capacity, and gives him a control over the Secretary of War not probably contemplated. Sec. 84 interferes with the command of Governors over the militia.

Sec. 96 "is not only unjust, but it is unwise; and was probably inserted to serve some personal end, as in the preceding section (95) the selection of generals to command troops is confined to officers of the line. Why not allow to the staff the same privilege in their positions, and not so entirely destroy all incentive to advancement?" If this section is adopted those who can command the most influence, without regard to fitness, will become chiefs of bureaus.

Sec. 120 deprives the Executive of his just rights, and gives the General a control of appointments in the Army "which even the most enthusiastic centralizer has never thought of, and a dangerous power over the civil and administrative affairs."

Sec. 121 opens wide the door to favoritism, and will completely demoralize the Army.

"If (sec. 129) the General and the President happen, as has happened, to differ in their views of public policy, the former could thwart the wishes of the Executive, either by requiring the presence of the Department Commander elsewhere, or detaching him, on any pretence, and placing in command of the department one suited to his purpose."

The duties imposed by sec. 153 are purely ministerial and belong to the Secretary, as does the control of recruitment given by sec. 206 to the General.

"Sec. 232 is meant to confer power on the Executive, in this reorganization of the Army, to transfer officers, as he may see fit, to the unlimited prejudice of rank; and this without the advice and consent of the Senate. This would be clearly unconstitutional as well as grossly unjust."

"Sec. 519. If the Subsistence Department, under the provisions of this section, can, with so many masters, be able to serve the one sole earthly master—the Government—it will go far to disprove the Biblical declaration on that subject. It will be simply impossible for the Chief of that Department to make both ends meet if the authority to direct purchases is given to others beside the Secretary of War, in whom alone, under the law, it now resides."

This is a summing up of the criticisms of this pamphlet, which concludes as follows: "To any one familiar with such matters there is apparent a principle running through all its details which tends to centralize in the purely military commander a control and power over civil administration which, under the Constitution of our country, should alone be held by the Commander-in-Chief—the President—and his civil representative, the Secretary of War."

REPEATING RIFLES.

REPORT OF EXPERIMENTS MADE IN THE FRENCH NAVY WITH THE HÖTCHKISS, KROPATCHEK, AND KRAIG REPEATING RIFLES.

Translated for THE ARMY AND NAVY JOURNAL, by Lieut. T. B. M. Mason, U. S. Navy, from *Extraits du Mémorial de l'Artillerie, de la Marine*. XXXII. Published November, 1878, by a member of the board.

The question of the superiority, for the armament of troops, of the repeating over the single shot rifle, has been in Europe the object of long discussions and of many experiments which, up to the present, have had no practical results. The French Navy, judging that the moment had arrived to form a decision, decided to arm its sailors with a magazine gun, and undertook for that purpose methodical experiments, of which the following is a complete description:

The question of principle is first discussed in considering the employment of magazine arms in the Navy. Then, after having briefly described the arms to be experimented with, the results obtained by the commission at Cherbourg are given. Finally the last chapter gives the conclusions to which the experiments led and the decisions which have been come to.

ON THE EMPLOYMENT OF REPEATING RIFLES IN THE NAVY.

No one can deny the importance of superiority of fire in a combat. Rapidity is the principal, although not exclusive, element of this superiority. It is what Rüstön, in his treaty on general tactics, expresses in an original way as follows:

The question of time has a great bearing on the practical effect of the gun as on that of every machine. In fact, an ideal arm, with a perfectly horizontal trajectory, and with no deviation, but which could fire but one shot every fifteen minutes, could not hold its own against bows or slings.

This idea has not always been as generally accepted as we are tempted to believe that it is to-day. It suffices in order to be convinced of this fact, to remember what Major Maldan, an artillery officer, said in 1869 to a commission ordered by Marshal Niel:

Prussia, with a discernment which does the greatest honor to the practical good sense of her rulers, understood the advantage which great rapidity of fire might give at certain times in a battle, and without stopping at the arguments advanced by all the other powers, of the too great expenditure of ammunition, of the difficulty of replenishing during action, of the impossibility of preventing soldiers from using all their ammunition at improper times, she adopted in 1841 the needle gun, with the intention of preventing the too great expenditure of ammunition by the care given to the military education and discipline of her men.

Notwithstanding the admonitions and advice of many warriors, the results of the war of 1849, in Saxony and the grand duchy of Baden, those of the war of 1866 in Schleswig-Holstein, the eyes of the other powers were not opened; but after the campaign of 1866 there was a general stupefaction.

No more discussions. After Sadowa all the powers great and small adopted, in some form, breech-loading small arms.

The war of 1870-71, and later still the Eastern conflict, have confirmed the advantages of great rapidity of fire. General Todleben, whose authority is unimpeachable, touched incidentally upon this question in a letter dated January 18, 1878, to General Brialmont:

The attacks of the 30th July and 11th August (against Plevna) were victoriously repulsed by the enemy, and cost us 30,000 men. . . . The fire of the infantry caused a perfect hail of bullets over a distance of more than 2 kilometres. The most heroic endeavors of our troops were without effect, and divisions of over 10,000 men were reduced to an effective of between 4,000 and 5,000. This was owing to the fact that the Turks did not even attempt to slight, but, hidden behind the trenches, touched and fired as rapidly as they could. Each Turk carried 100 cartridges, and had a box containing 500 placed near him. A few expert marksmen were employed to pick off the officers. . . . The fire of the Turkish infantry produced the effect of a revolving machine, projecting masses of lead to great distance.

In 1867, the French Navy, convinced of the importance of rapid fire, adopted the Army breech-loader; so great was considered the importance of this change that the first arms were procured from English firms, all the available French plant being occupied in supplying the army.

Notwithstanding its great advantages, the rifle, mod. 1866, had many disadvantages well known to-day. The ranges were not exact, the rifled motion was not perfectly imparted; the needles were liable to break and cause accidents; the presence of caps in the chamber caused difficulty in loading; misfires were common, especially at the first shot; the cartridges were very perishable and the sabre bayonet was too heavy.

As far back as 1869 a report from the Mediterranean Squadron, on the firing of the rifle, mod. 1866, contained the following criticism:

The rifle, model 1866 is a great step in the armament of the fleet. The fault of this arm lies in the cartridge, and it would seem very necessary to bring this to the attention of the experts.

After the war of 1870-71, similar complaints were made by the army, and in 1873 the Minister of War appointed a board presided over by a general officer; the mission of this board was to discover what improvement could be introduced in the combustible cartridge.

The entire disuse of the combustible cartridge and the introduction of the metallic one was advised. This decision was adopted, and soon after the new rifle, mod. 1874, was introduced; this rifle being a natural consequence of the change of cartridge. The Navy reserved, until the commencement of 1878, its decision as to the best rifle to adopt for the fleet.

There was no question about the cartridge that would be chosen whatever might be the arm selected. As sailors are often on service in warm damp climates, the Navy has still greater reasons than the Army to abandon the cartridge, mod. 1866, and adopt the metallic case. It is true, that if it were found necessary to make new cases of paper on service it could be done, whereas it would be impossible to make the metallic ones, which require complicated

machinery only to be found in the arsenals. As this is the only claim for the paper case, for naval purposes, it would seem very unimportant.

The metallic case being adopted, it was decided to take the same model as the War Department. In this way the difficulty of providing two species was prevented, and the Navy will always be able to get from the Army the relatively small number which it requires. Against sailors may be called upon to act on shore with troops of the line; the necessity of similar ammunition is self-evident. Nevertheless, notwithstanding these advantages, we should have hesitated, if in the requirements of maritime warfare there had been anything to recommend another cartridge.

In fact, as will appear further on, when from 1866 to 1870, repeaters began to be known and appreciated in the Navy, several boards charged with the duty of experimenting with them, accepted unanimously a short metallic cartridge in which the weight of the ball and powder charge were notably inferior to those in the paper cartridge, mod. 1866; this was due to the fact that all the repeaters of that period which offered for experiment used short metallic cartridges; it was therefore necessary to accept them and renounce all similarity with the army combustible cartridge. The principle of similarity could not then be advanced. To-day the war department has adopted the metallic cartridge mod. 1874, and the question is changed.

Nevertheless, if the Navy decides to arm itself with repeaters, the question will arise whether the great number of charges with which the arm can be provided by using a smaller cartridge would not compensate for the disadvantages of dissimilar cases. As to length of range, arms with short cartridges have an accurate fire up to about 400 metres, which range is sufficient for the every-day necessities of naval usage. We should not delude ourselves as to the accuracy of small arms in action. Thus the infantry rifle, model 1874, with its long cartridge, its charge of 5 gr. 25, its 25 gr. bullet, its sight accurately graduated up to 1800 metres, and its ranges of 2,500 and even 3,000 metres, could only be used in actual service in much more restrained limits. The Prussian regulations of Nov. 15, 1877, concerning infantry fire, give very definite directions in this respect. Everyone knows that the rifle, model 1874, and the Mauser are similar in effect.

Up to 700 metres all targets can be hit by group firing; beyond that limit single shot firing should be employed, and then only against objects of defined proportions. Such objects, for example, as batteries and masses of troops; these serving as good targets up to 1,200 metres.

Major Boguslawski of the Prussian army in an article published in 1877, expressed the same thing with more vivacity:

If it is granted that, on mowing, decisive, well sustained fire, limited in former days to from 150 to 200 metres, can now be given up to even 500 metres, it would seem that the new arms had done their duty.

This only refers to group firing. The Prussian regulations in regard to the limits of single shot firing are still more rigid; they are worded thus:

Taking into consideration:

1st. The ballistic properties of the arm;

2d. The personal accuracy of the marksman;

3d. His power of determining the range;

The distances at which it is proper to fire single shots are as follows:

Against single men, lying down or covered over half their height, up to 200 metres;

Against a target the breadth and height of a man or even half, up to 250 metres;

Against broader targets having the height of a man, up to 400 or 450 metres; up to 350 metres if these targets have only half the height of a man. When the distance is certain, and the sight perfectly adjusted, the last limits of 400 or 450 and 350 metres can be respectively increased to 650 and 450 metres.

The practice at Cherbourg of good marksmen, confirms these very excellent rules. With the rifle, model 1874, at a distance of 800 metres against a target 4x4 metres, experienced marksmen, knowing the distance and firing with a rest, required three successive series of 45-48-49 cartridges, in order to put 20 balls in the target. Therefore in the Navy, where sailors would often have to fire at targets having the height of a man with small breadth, the single shot firing would be limited to 450 metres and the group firing to 700 metres, if the rifle, model 1874, were used; restrained limits in comparison to the powers of the piece. It is true that with the short cartridges the limits will be still more restrained and the inaccuracy, owing to deviations caused by atmosphere and wind, relatively greater. And then again most of the firing will be against men sheltered by wood or iron, which would bring forward the question of penetration. The short cartridge would be harmless where the long cartridge, model 1874, would be most effective.

Short range and reduced power of penetration being the result of the employment of short cartridges, magazine arms employing them would only be of use in exceptional cases, such as the rapid passing of two vessels broadside to broadside; but they would be useless for landing parties or expeditions on shore and generally against boats; in fact in all cases where single shots should be used.

In a word, this arm would have, as has been before stated, a very limited part to play, reserved entirely for use afloat under certain circumstances; and their adoption would lead not only to loss of uniformity with the army, but even afloat.

The numerous drawbacks, resulting from the employment of short cartridges, which have been enumerated, are certainly not compensated for by being able to store up a greater number of shots in the piece, notwithstanding the advantage that should be attached to this quality of a repeater.

The cartridge, model 1874, having been accepted in principle, it remained to be seen whether the Navy should adopt a single shot or a repeating rifle; rapidity of fire being the essential element, in certain circumstances, which can compensate for inferiority in numbers by superiority of fire. The use of repeaters for the Navy was clearly indicated.

But to prevent confusion we must stop for a moment and define clearly what we understand by the expression repeating rifle, it being sometimes employed in a slightly different way. The repeating system consists in the power of being able to fire several consecutive shots, the cartridges having been previously placed in the arm. Repeaters are of two principal species—revolvers and magazine rifles. In the revolver there is a single barrel, behind which several chambers, arranged in a cylinder, place themselves successively.

The cartridges having been placed beforehand in the cylinder, it is only necessary to cock the piece to bring one in the prolongation of the barrel. The cylinder being now held in place by a special arrangement of the mechanism, the piece can be fired; the piece having been fired, the cylinder is free to move; on recocking, a new chamber is brought in line, and the piece is ready for another fire. According as the movements of cocking and firing are made by successively cocking the hammer and pressing the trigger, or at once by simply pressing the trigger, we have the intermittent firing or continuous firing revolver. With the continuous firing revolver all the cartridges can be discharged without changing the position of the arm, keeping the line in sight continually on the object.

The revolving pistols were the first types of this category of arms, and it is well known that in 1855 the Navy adopted Lefauchaux's revolvers made at his private works. The example of the French Navy was slowly followed by all.

Unfortunately these incontestable advantages are at the expense of weight and size of cartridge, points that are inadmissible in the rifle. The employment of the cartridge, model 1874, in a revolving rifle would necessitate a cylinder whose size would require a special lever independent of the spring, which would mentally complicate and render more slow the working. Then again the revolving gun would always be more or less inaccurate on account of lack of continuity between the chamber and the barrel. Finally the loading and extraction would be inadmissibly slow in face of an enemy.*

In magazine arms the cartridges, placed in a tube fitted in the stock or butt, or in a reservoir attached to the piece, feed automatically into the barrel when the breech is opened; it is only necessary to close this to fire. This eliminates the necessity of handling and charging the cartridge which is an important advantage, as was remarked in 1875 by an Austrian military journal.

The economy of time, which is the result, is of great value at the decisive point of an action, because handling and charging are long and difficult movements, especially when firing rapidly.

Magazine rifles can be divided into two classes: those fitted only for repeated firing and those which admit of being used also for single shot loading and firing.†

Arms constructed to fire only from the magazine could only be of use in very special cases, such as arming a few marksmen to fire on positions where the enemy would pass very rapidly, being only visible for a short space of time. But in the habitual conditions of an action, the cartridges in the magazine must be held in reserve and used only when great rapidity of fire can have decisive results; the rest of the time the men must fire single shots, quickening or slackening the fire according to circumstances. A rifle firing only as a repeater would be entirely unfit for such a continuous fire, more or less quick, because the re-loading of the magazine would be very difficult in action; because the intermittent fire, resulting from the successive discharges and reloadings of the magazine, would be morally and materially bad with all the known models, and finally because we should be at a marked disadvantage compared with a single shot piece both in regard to rapidity of fire and facility of manœuvring.

We can be interested therefore only in a magazine rifle firing single shots or repeating at will. Such an arm alone can satisfy all the many necessities of war. From this reasoning it would appear that there is no doubt of the utility of such arms; still although the study dates back to the end of the sixteenth century no European power has taken a decisive step in the new direction.

What can be the reasons?

In asking this question, we should notice that the objection which would be drawn from the little importance which the great nations have attached, up to the present, to repeating arms, is not as well founded or as serious as would at first appear

* There is another species of revolver which has but one breech piece with several barrels (Hötkhiss revolving cannon type), and which does not present most of the difficulties mentioned, but the limited weight of small arms would not admit of this mode of construction.

† These magazine rifles are often included under the general title of repeaters. So that in what follows both designations may be employed. No confusion need result, as the question of revolving arms will not be discussed.

Since the year 1866 the Swiss commission on small arms has said that repeaters must be adopted in preference to single shooters and that all the contingent must be armed with them. In a report dated February 4, 1867, sent from the Minister of War to the Minister of Marine, General Guio said, "This decision shows either great penetration or a little enthusiasm." He added, however, that "the considerations on which the Helvetic government based its ideas were very plausible."

Austria has lately taken a step in the right direction by arming the gendarmerie with a magazine rifle known as the Fruwirth, of ingenious but rather complicated construction. Norway has the Krag-Peterson rifle, fitted with breech block and using short cartridges. Turkey has some regiments armed with the Winchester rifles.

But per contra Prussia has not considered the question of repeaters and has lately adopted the Mauser. Here, however, the value of the objection is only apparent; after the war of 1870-71 it was necessary for Germany to arm as quickly as possible with a rifle equal to the Chassepot. There are circumstances which do not admit of delay in order to do better later; such were the circumstances of the German war department when they adopted the Mauser.

At any rate objections based on such examples would not constitute a valid reason to exclude a new machine; could they not have said in 1865, why adopt a breech loader? France, England, Russia, Italy have not adopted one, and continue the use of muzzle loaders; this is evident proof of the superiority of that arms—so evident that Sidowa made of this evident proof an evident error.

But, there are objections, not vague, like those before stated, but precise, which seem to be based on proofs and facts, and which it is important to examine.

Repeating arms, say those who are opposed to them, will entail an exaggerated consumption of ammunition; the magazine once emptied the man will be disquieted, his confidence in his arm will be diminished, his morale will be weakened. Further we must not be deluded by the efficiency of rapid repeating fire; the number of hits would not be in proportion to what we might expect from the great number of shots fired. Lastly a magazine arm will always be a delicate thing to handle and keep in order and heavy to carry.

In regard to the expenditure of ammunition we must not forget that this has already served as the great argument of the opponents to breech-loading small arms. That fact would suffice to show the emptiness of this argument. It must be admitted that such a thing as firing discipline or drill exists and depends on the officers; in regard to it Colonel Capdevielle, in his book on the armament and fire of infantry, says in a categorical manner:

The most serious fault with the French soldier is his tendency to fire too much. We have already pointed out this fault, which we impute above all to the cadre of our infantry. When the officers and non-commissioned officers become thoroughly imbued with the necessity of economizing ammunition, when they learn how to direct and judiciously employ firing by word of command, this evil tendency will be restrained; because, we repeat, if the soldier fires improperly and immoderately, it is often because he is left to himself before the enemy.

This fire discipline is all the more necessary, when each soldier can fire all his cartridges away in ten minutes with his breech-loader firing single shots. We must allow that a diminution of this time by a few seconds—for this is all that would be caused by a repeater—would be very unimportant. This objection has then very little weight.

The other objection has been put in shape by Colonel Capdevielle:

The soldier will be full of confidence, when the magazine is full, but if it is exhausted, notwithstanding that the piece can continue the single shot fire, the man will be put out, and a moral uneasiness will be the result.

Colonel Capdevielle acknowledges at first that the man will be more confident as long as his magazine is full; this is not a result to be despised. An Austrian military circular in 1874, expressed this same idea in another form:

The marksmen, knowing that he possesses an arm capable of firing rapidly a number of shots, will have his courage increased; he will even wish for the moment when he can utilize all the powers of his piece.

The more the soldier or the sailor is convinced of the importance of the rapid fire of the cartridges in the magazine, the less will he be disposed to use badly this precious reserve.

He will only employ the repeating fire when the object is only exposed to his view for an instant, or when he finds himself in a critical situation, where a last effort becomes decisive.

In the first case there would be no fear of moral uneasiness from the emptying of the magazine.

In the second case the troops armed with the repeaters would repulse the enemy with their rapid fire, and then it will be admitted there would certainly be no demoralization; if, on the contrary, the assailant, profiting by a greater discipline, a greater courage, a superiority of numbers sufficient to fill up the gaps caused by the fire that is mowing him, does not stop, and continues to advance, his adversaries having exhausted their magazines, can only fire single shots.

Certainly the position becomes critical, and will appear so much the more so from the fact that the rapid fire did not produce the effect expected of it; but, if, under these conditions, there had not been the rapid fire, would not the results have been still

more disagreeable, and above all, would not the success have been more rapidly obtained and less dearly bought by the enemy? This would be a great compensation for moral uneasiness, which would not materially change the condition of affairs.

The adversaries of repeaters entrench themselves also behind this truth, which is according to them indisputable:

The fire will be very rapid for a few seconds, but the men will sight very badly, and they will produce only the effect that they would have in firing single shots, perhaps even less; much ammunition would have been expended without results.

This reasoning has so little foundation, that it would seem needless to dispute its worth, if it were not advanced by very competent officers with whom prejudices are sometimes illusions.

The repeater is only intended to be employed in decisive moments, at short ranges, when pressed by the enemy; this rapid fire, executed by drilled men, will always be effective, and the useful effect will be augmented by the rapidity with which it is delivered, increasing as the distance diminishes, and the target becomes larger.

Major Boguslawski, before cited, has not the slightest doubt on this point:

That quick firing is too often used is true; but should we abolish the principle? No. What other method of proceeding would replace it in the decisive moments of an attack or a defence? There is no other. The principal virtue of quick firing, which is begun at this moment at short range, is and will be its rapidity and consequently its sudden and murderous effect on the enemy.

It is impossible to give a valid reason, all other things being equal, why the same men should not fire as well rapidly as slowly; sighting requires the same time, whatever may be the time of loading, and if increasing this time increases the effectiveness of the man, we should be led to the conclusion, a little singular perhaps, that in order to fire well a certain amount of time should be wasted in operations foreign to aiming; and by a curious chance that this loss of time, the minimum necessary, would be obtained by using a breech loader firing single shots.

If they wish to say that at the critical moment where the use of the magazine would be proper, the men will be so moved, so troubled, that they will fire badly, wasting more cartridges than gaining advantage, an indisputable fact with raw troops, they would at least be as much troubled, as much moved, they will fire as badly, if they are armed with single shooters; the effect will therefore be proportional to the number of cartridges fired, which fact, even under these conditions, would give an immense advantage to the magazine gun.

The fault generally found with repeaters, that of being difficult to handle and hard to keep in order, if it were true for the first types proposed by Winchester, Henry, Lamson, Wetterli, etc., does not obtain the later models. It must be acknowledged that a repeater will always be a little more complicated, a little harder to keep in order than a single shooter. In the Navy, however, this is a minor consideration, as aboard ship the arms are always under the care of competent armorers. The difficulty of handling has now almost entirely disappeared in several of the model repeaters, the working being almost as simple as for a single shooter.

As to the weight of the repeater, it is not so great as might be supposed.

The repeating rifles of Spencer, Sandborg, Wetterli, Krag-Peterson for example, weigh respectively with empty magazines and without bayonets, 4 k. .700—4 k. .650—4 k. .550—4 k. .219. The breech loader, model 1874, weighs 4 k. .200; the Mauser (German), 4 k. .440; the Werndl (Austrian), 4 k. .380; the Beaumont (Dutch), 4 k. .350; the Berdan (Russian), 4 k. .510. It must be remembered that these figures do not include the bayonets.

It is true that when the magazine is full the weight is increased about 280 gram. But this weight is only transferred from the cartridge box to the piece, and makes no difference in the total weight to be carried—moreover, on the march, the soldier would not have the magazine filled—it is only at the beginning of an action that he would take this precaution, and then he will not complain of the weight were it even greater. Finally, sailors are less exposed than soldiers to the necessity of long marches with heavy loads; the weight of the piece is therefore a very secondary consideration for the Navy.

For all engines of war, there is however, one great test which settles all controversies; that test is actual warfare. The grand test of the breech loader was Sadowa.

The repeater, however, has also had its history, less known perhaps, but as convincing. During the Rebellion, the Americans created several types of repeating rifles, and used them too on the field of battle.

Colonel Lecompte has cited several examples of their use; we will only reproduce the two following:

1863.—The Michigan Brigade, armed with seven shooter magazine guns, the Spencer breech-loader, caused a great loss to the enemy, who on this account thought themselves opposed by a very much superior force.

1864.—Besides the Springfield rifle, many of the regiments were armed with breech-loaders of various systems, Peabody, Remington, Sharps, Spencer, Henry, and others; the last two named were repeaters which could fire rapidly seven, nine, and even fifteen times. The cavalry among others hastened to profit by these new arms. The Spencer became the regulation arm of nearly all the corps.

The Comte de Paris, in his history of the war of Secession, Vol. 1, page 543, expresses himself as follows in regard to the Colt and Spencer carbines;

The Colt carbine was most effective in intelligent hands, but required much time to reload. The Spencer carbine is an excellent arm whose use has spread more and more in the Federal army. . . . Wonderful examples are given of individual defenses due to the rapidity of fire of this arm. Many of the Federal regiments which used it were most effective. Most of the carbines were of two models, one for the infantry, the other, lighter and shorter, for the cavalry.

It is thus seen that the Americans not only judged it expedient, a thing which could not be doubtful to a reflective mind, to arm their cavalry with repeating carbines, but also armed their infantry with the same.

Besides the facts of this American war, so little studied in France, and consequently so little appreciated, there have been examples in the late Russo-Turkish conflict which confirm those already cited.

At the attack on Plevna, July 30, 1877, the Turkish soldiers covered in the trenches and behind earth works, fired without being harassed. With the Martini-Henry, a superior arm to the Berdan, they decimated the Russian columns, which continued to advance heroically to a distance of 100 metres from the trenches. At this moment each Turkish soldier took a seven-shooter, Winchester, which was placed near at hand, having been taken from the cavalry when it was disbanded. The Russian columns after terrible losses had to give up the attack.

It is therefore demonstrated that there is no serious objection to the adoption of a repeater, whether viewed from a theoretical or historical standpoint; Major Schmidt, of the Swiss General Staff, and director of the federal manufacture of arms, in the summing up of his book, published in 1877, on Small Arms, came, with perhaps a little more reserve, to the same conclusion.

We have said that the modern gun should be a rapid firing arm of the most simple construction, of great strength, of long life, easy to be handled and kept in order.

The repeater which is superior to the single shooter in rapidity of fire and is more easily handled, is not much more difficult to keep in order; this superiority does not extend however to the simplicity of construction, to strength and length of life. The repeating system increases the number of parts, and the function of some of the parts become much more extended.

Very different opinions may be held on the question of deciding after this research, whether the greater value should be given to the advantages of the magazine or to those of greater strength and longer life of the arm. Nevertheless, it must appear that the repeater is the arm of the future.

Even now its mechanism is quite simple and strong, its dismemberment, for example in the Swiss repeater, easier and less complicated than in many single shooters. The age, of activity and invention, in which we live, may yet increase the simplicity and augment the life of some of the pieces, so that the repeater may be perfected in even these points.

The French Navy did not wait until repeaters were perfect, but adopted them for trial afloat, in order to determine their merits.

In 1866 and 1867, the repeating carbines of Lamson and Winchester were experimented with.

These two arms, very ingenious, but still imperfect, gave ground for criticism; the repeating principle, however, was strongly advanced by all the boards.

The trials in 1867, with fifty Lamson carbines, showed the mechanism to be too delicate and the working irregular.

In October, 1868, the report from the West India Squadron, on the Winchester rifles, ended thus:

For the Navy the substitution of the metallic for the paper shell appear to be most desirable. But whatever may be the case, magazine arms will always have the advantage over single shooters, in being able to furnish at a given moment a very much more rapid fire; they appear to be most appropriate for special services, particularly for our ships, compensating for the smallness of numbers.

On account of the excellent results reported from the Semiramis, the commission can but request that the Winchester rifle be submitted to more extensive experiments.

In February, 1870, the report from the school ship terminated as follows:

The Winchester Magazine is a precious reserve for close combats of short duration, such as passing broadside to broadside. Under such circumstances a few toymen stationed in the tops and small detachments of riflemen composed of good marksmen, having a perfect knowledge of the mechanism of the arm, would produce without doubt with this carbine much greater damage than with the arms actually in service.

In conclusion, the board is convinced that the issuing of a certain number of Winchester carbines to each ship would be a real progress in their armament.

The experiments were interrupted until 1877. At this time the army had been armed with the rifle, model 1874; the Navy had given the same arm to the marines, but had reserved its decision in regard to the armament of the fleet, which retained until further orders the rifle, model 1866.

March 15th, 1877, the Inspector-General of artillery proposed to the Minister, to find a repeater for the armament of the fleet, imposing on the different models submitted for experiment the following conditions:

1. To fire the regulation metallic cartridge of the army without any charge;
2. To have the same trajectory and the same accuracy as the rifle, model 1874;
3. So constructed as to be used as an ordinary single shot arm, or, in other words, to admit of passing quickly and simply from single shot loading and firing to repeating, and vice versa;
4. To be strong, not requiring too tender care, not to be exposed, from a breaking down of the repeating mechanism, to unserviceableness as a single shooter, to be dismounted, cleaned, and remounted without difficulty.

March 28th, the Minister approved of this programme, and the 14th of September, 1877, he sent orders to the port of Cherbourg to experiment with three types of repeaters, the orders containing the most detailed instructions as to the principal elements.

The three types of arms chosen satisfied the require-

ments of firing the regulation cartridge, model 1874, and of having barrels similar to the rifle, model 1874, or differing from it by slight differences in length.

Two of these arms, the Hotchkiss and Kropatschek had screw breeches. The Krag had a breech block. The board had thus a chance to see the advantages and disadvantages of the two systems of breech closing, as referred to the repeater.

The Hotchkiss had the magazine in the butt; the Krag and Kropatschek had on the contrary the magazine in the stock. The experiments would therefore demonstrate whether either of these dispositions was superior to the other.

No notice was taken of repeaters having independent magazines, which are hooked on to the breech of the piece when repeating fire is desired. This disposition, very seducing at first sight, and which has been realized in some arms (Sandborg's & Greene's), has not yet been entirely developed. Without entering into a discussion as to the merits and demerits of this system, whose principle alone gives rise to serious objections, we will only remark, that for sailors obliged to ascend the rigging, to go down ladders into the boats, etc., it is very necessary to prevent as much as possible projections on the rifle, and it is also wise to proscribe all small objects easily forgotten or misplaced.

The experimental board was presided over by a superior officer of the Navy, and composed of a superior officer of Marine Infantry, a superior officer of Marine Artillery, lieutenants attached to the port of Cherbourg and the Channel Squadron, and captains of Marine Artillery and Infantry.

The experiments were commenced November 6th, 1877, and terminated April 3d, 1878. They are completely described in the following chapters:

The principal points prescribed for study in the programme were:

1. To make certain that all the arms experimented with had shot for shot the same range as the rifle, model 1874 (precision, tension of trajectory, quickness of fire).

2. To determine the practicable rate of firing single shots and repeating when handled by sailors or marines.

The results should be such as could be reproduced by well drilled and well disciplined troops, omitting results obtained by experts, and which have no weight in a serious discussion.

In order to prevent the men from slurring, the time necessary for sighting the number of hits was always reported.

The comparisons of quickness and useful results of single shot and repeater firing should furnish all the elements of appreciation useful during the discussion.

3d. To make sure that the cartridges, model 1874, in the magazine are not dangerous, while firing, while manoeuvring, or from accidental shocks.

To study the deformation of the bullets in the magazine and the influence of this deformation on the working of the mechanism and the accuracy of fire.

4. To show the strength of the pieces in actual and blank firing, their resistance to oxydization, to dust, etc.

When the experiments were finished, the board was asked to answer categorically the following questions:

Is the repeating arm useful in the Navy?

In the case of an affirmative answer, which, amongst the arms experimented with, fulfils the requirements which must be exacted of a weapon of war, and if there are several, to which type does the board give its preference?

REPEATING ARMS EXPERIMENTED WITH BY THE BOARD.

The three types of arms submitted to trials of the board are, as we before stated, the Hotchkiss (American), the Krag (Norwegian), and Kropatschek (Austrian). Each type is represented by three pieces. They are all furnished with magazines placed in the mountings; this magazine is in the butt in the Hotchkiss, in the stock for the other arms.

These three types of rifles have besides, as has been explained in Chapter I, three very important properties in common:

1. They all fire the cartridge, model 1874.
2. They have all the barrel of the rifle, model 1874 (length, chamber and rifling); one of the Kropatscheks has a little shorter barrel, but so little, 77 mill, that the ballistic properties would not differ essentially.
3. They can be fired either as single shooters or repeaters.

These types are essentially different in the breech arrangement. The Hotchkiss and Kropatschek are fitted with screw breeches, but while the breech arrangement of the last-named resembles very much that of the rifle, model 1874; the Hotchkiss differs very materially from it. The Krag has a mechanism which is generally known as a breech block.

These three types of arms have been fired for comparison with the rifle, model 1874, of which there is a complete description in note A., taken from the "Revue d'Artillerie," 5th livraison, February, 1876, page 401. We will give here only the essential measurements of the barrel of this piece, which arm will be considered as known to the reader.

Calibre (mill.)	11
Total length	820.5
Length of the part rifled (mill.)	74.6
Rifling	4
Helicoidal	0.25
Depth (mill.)	550
One turn in (mill.)	3° 46'
in degrees	

The bands and grooves are equal; the lands are connected with the grooves by curves of 0mm.5 radius. The chamber has the form and dimensions to suit the cartridge, model 1874.

The table given at the end of this chapter gives for all the experimental arms the principal dimensions and weights, also the times required for dismounting and mounting them.

AMMUNITION USED BY THE BOARD.

The ammunition placed at the disposition of the board came either from the magazine of the War Department or from the works of Mr. Gevelot.

The cartridges from Mr. Gevelot's works were intended for some special trials; part were filled with charcoal; these were intended for dummy firing and for study as to the deformation of the cartridge in the magazine; others had primer caps of various thicknesses, and were filled some with charcoal and some with powder; these were intended to study the safety of the filled magazine during single shot firing; finally, others were filled with hardened lead bullets in order to ascertain whether it might not be advantageous to use this instead of soft lead in the repeaters.

All the cartridges were of the form and dimensions of the regulation model.

The cartridges of the War Department came from Bourges; they were intended for all the precise firing, rapid firing, useful results, &c.

Note B, taken from the "Revue d'Artillerie" of February, 1876, 5 livraison, page 430, gives the principal peculiarities of the cartridge, model 1874.

We reproduce the principal facts:

Weight of the rim (mill.)	2.15
Total length of the shell (mill.)	59.45
Diameter of the rim (mill.)	16.80
Diameter of the shell near the rim (mill.)	13.75
Diameter of the shell in front (mill.)	11.75

Diameter at base (mill.)	1.11
Length (mill.)	.27
Weight (gram.)	.25

2 cardboard wads { diameter (mill.)	11.1
{ thickness (mill.)	0.6
1 felt wad, 4 mill. thick, between two cardboard wads of the same diameter	11.1

Diameter (mill.)	.04
Height (mill.)	.02

Diameter (mill.)	6.35
Height (mill.)	2.50

Powder F, weight (gr.)	5.25
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Total length (mill.)	76.
Total weight (gr.)	43.08
Weight of a package of 6 cartridges	272 gr. 0

COMPARATIVE ACCURACY OF THE THREE REPEATERS ON TRIAL AND THE RIFLE, MODEL 1874.

The first fires executed were to determine that the three arms of each type on trial had the same ballistic properties, and that the three types did not give in this regard sensible differences from the rifle, model 1874.

The fires were made from rests, at distances of 200, 400, 600, 800 and 1,000 metres; the magazines were empty and closed.

The marksmen for the board were chosen from amongst the crews of the Cherbourg Division and the Marine Infantry. They were all good shots. The results obtained, although comparable amongst themselves, could not compare with those obtained by the officers of the Army board, who were much more experienced. Besides, we must not forget that the polygon* of Cherbourg is completely open, and that nearly all the firing was carried on in bad weather.

The following table sums up the results obtained. It was not deemed necessary to give the digression† for each arm of each type, these digressions being almost the same; there is given only the averages of the averages of the three arms of each type. Each of these is the average of ninety fires in three series of ten shots with each of the arms of each type.

The arms on trial could, therefore, be considered as equal amongst themselves as regards accuracy, and also equal to the rifle, model 1874.

The results obtained at 800 and 1,000 metres are not given in the preceding table, because the corresponding digressions to these distances, as well for the rifle, model 1874, as for the other arms, had no value

* Drill ground.

† Deviation of the centre of impact from the centre of bull's eye

COMPARATIVE ACCURACY OF THE THREE TYPES OF ARMS AND OF THE RIFLE, MOD. 1874.

Fired from a rest.

DISTANCE.	Av. Vertical Digression.				Av. Horiz'l Digression.			
	Mod. 1874.	Hotchkiss.	Kropatschek.	Krag.	Mod. 1874.	Hotchkiss.	Kropatschek.	Krag.
mét.	cent.	cent.	cent.	cent.	cent.	cent.	cent.	cent.
200	34	25	26	18	19	21	21	16
400	46	41	39	34	44	37	39	41
600	73	76	54	76	58	73	64	58
Av. for 3 shots,	47	47	40	43	40	44	41	38

on account of the conditions of the firing at those distances. In fact, the target had very much diminished dimensions, especially in height, the sights were badly or not at all graduated, rendering very long the time necessary to determine the line of sight—the line of sight having been determined, the digression could only be taken of those shots which struck the target, deducting those which missed. These digressions were, therefore, no test of accuracy of the arm.

Thus at 1,000 metres with the rifle, model 1874, in three attempts to put 20 bullets into a target 12 metres wide by 4 metres in height, it was necessary to fire first 86 shots, next 95, and then 72.

Further rest firing at the end of the trials proved, by the comparison of the digressions obtained with those obtained at the beginning, that the arms had preserved their accuracy.

QUICKNESS OF SINGLE SHOT FIRING.—USEFUL EFFECTS.

It was proposed to compare the quickness in single shot firing, and the corresponding useful effects of the three repeaters and the rifle, model 1874.

Account was taken of the number of bullets put into a circular target of 1m.50 diameter. The range was 200 metres.

The magazines were empty or full; the marksmen were in marching rig, taking the cartridges out of a cartridge box or unequipped, taking the cartridges from the table.

It is necessary to understand the definition of the terms to be used in the table.

Quickness of fire is the number of cartridges that one hundred men can fire in one minute.

The useful effect is the number of bullets that one hundred men can put, in one minute, into a designated target.

Theoretical quickness is that obtained by men unequipped taking from a table cartridges arranged in advance.

Practical quickness is that obtained with men in marching rig, taking cartridges from their cartridges boxes.

The theoretical or practical useful effect has reference to firing executed with theoretical or practical quickness*.

We see, what was evidently foreseen, that the useful effect may also be obtained by multiplying the per cent. by the quickness of fire and dividing by 100.

The following table gives the average of the results obtained:

COMPARATIVE TABLE OF THE QUICKNESS IN SINGLE SHOT FIRING AND THE USEFUL EFFECTS.

ARM.	MAGAZINE.	QUICKNESS.		Relation of the practical quickness to theoretical.	USEFUL EFFECT	
		theoretical.	practical.		theoretical.	practical.
Mod. 1874.....		1.138	908	0.79	337	377
Hotchkiss.....	empty.	1.213	958	0.79	299	332
Kropatschek.....	id.	1.228	978	0.80	525	310
Krag.....	id.	1.088	909	0.83	319	247
Mod. 1874.....	full.	1.296	1,071	0.82	481	355
Hotchkiss.....	id.	1.305	1,075	0.82	425	421
Kropatschek.....	id.	1.387	1,057	0.75	445	443
Krag.....	id.	1.187	982	0.83	300	336

Each number in the table represents the average of 80 shots at least.

It is seen that in single shot firing the quickness of the Hotchkiss and Kropatschek repeaters, with full or empty magazines, can be considered as at least equal to the rifle, model 1874.

The quickness of the Krag repeater firing single shots is a little inferior to the rifle, model 1874. The relation between the practical quickness and the theoretical quickness is about 0.80, whether the magazine be empty or full.

* The formulas used by the Board are the following: The arm being loaded and aimed, if we count the time elapsed from the command fire until the firing of the Nth shot, this time T will be equal to that required to fire (N-1) shots.

Let N equal the number of bullets put into the target.

$$\text{Quickness of fire} = \frac{N-1}{T}$$

$$\text{Useful effect} = \frac{N(N-1)}{N T} = \frac{N-1}{T}$$

$$\text{Per cent.} = \frac{100}{N}$$

The useful effects show great variations which can be easily understood.

The numbers which represent in the table the useful effects are obtained by multiplying the number N of bullets put into a target of small dimensions (1m.50 diameter) by $6,000 \frac{N-1}{N T}$; it is only necessary in

these firings, always a little hurried, notwithstanding all the directions given for a single bullet, of a series of 80, to miss the target in order to make a great variation in the useful results.

However, the useful effects obtained show that the men took the time necessary to sight, which is, after all, the essential point.

It proves further, that between the Hotchkiss, Kropatschek, and rifle, model 1874, there is but little difference.

The small useful effects given by the Hotchkiss with its magazine empty were due to the absence of a sight notch corresponding to 200 metres; in the full magazine firing they became the same as other arms, the men having found for that distance a disparat sighting point.

The useful effects of the Krag were, like its accuracy, inferior to the other arms.

INFLUENCE OF THE EXTRA WEIGHT OF THE ARM, DUE TO THE CARTRIDGES IN THE MAGAZINE, ON THE QUICKNESS OF SINGLE SHOT FIRING.

In the following table the quickness of single shot firing is greatest when the magazine is full; but as this increase of quickness was also found with the rifle, model 1874, it can be attributed to the change of marksmen.

It was proved afterwards in firing at distances of 100, 200, 300 and 400 metres.

Ten shots were fired in each series, and as before the men sighted with care, and the bullets were mounted on the targets. The marksmen were changed so as to eliminate as much as possible personal errors.

COMPARATIVE TABLE OF SINGLE SHOT FIRING WITH THE MAGAZINE FULL OR EMPTY.

DISTANCE. (metres.)	QUICKNESS IN SINGLE SHOT FIRING.					
	Hotchkiss.		Kropatschek.		Krag.	
	Mag. empty	Mag. full.	Mag. empty	Mag. full.	Mag. empty	Mag. full.
100	1 583	1 278	1 148	1 185	1 125	1 250
200	1 389	1 500	1 222	1 296	1 167	1 292
300	1 333	1 417	1 222	1 333	1 375	1 438
400	1 333	1 333	1 333	1 444	1 250	1 438
TOTAL.	5 638	5 528	4 025	5 258	4 917	5 418
Av. quickness	1 409	1 382	1 231	1 315	1 229	1 355
Difference....	-27		-1 84		-1 126	

The quickness of single shot firing is greatest for those arms which have their magazines in the stock (Kropatschek and Krag), when the magazine is full. The reverse is the case with the Hotchkiss, which has its magazine in the butt.

But the difference is small, and we are only authorized to conclude that in those arms which have their magazines in their stocks, the quickness of single shot firing is in no wise retarded by it, even when the magazine is full, and that is the point that it was necessary to elucidate.

4. THE SPECIAL MANNER OF LOADING FOR SINGLE SHOT FIRING OF THE HOTCHKISS REPEATER.

Mr. Hotchkiss, in order not to have a magazine closer, wished to profit by the extreme facility of charging the magazine of his own, and he prescribed the following method of loading:

The magazine being open at each fire, the cartridge was introduced into it instead of directly into the barrel.

In making a comparative trial with two men loading, one by this method, the other by the ordinary method, it was found that the number of shots fired in a given time by the first was inferior to that fired by the second.

CONCLUSIONS.

1st. The accuracy of the fire of the three types of arms on trial is equal to that of the rifle, model 1874.

2d. In the single shot firing, the quickness and useful effect of the Krag rifle are inferior to those of the rifle, model 1874; the quickness and useful effect of the Hotchkiss and Kropatschek rifles are at last equal to those of the rifle, model 1874.

3d. The extra weight of the magazine in the three types has very little effect on the quickness of fire; in the arms having the magazine in the stock the quickness is not diminished when the magazine is full; it appears on the contrary to be slightly increased.

4th. Independent of all the serious reasons which are opposed to the suppression of the magazine closer, the method of loading proposed by Mr. Hotchkiss for his arm is disadvantageous.

1. TIME NECESSARY TO CHANGE THE MAGAZINE.

The following table gives the time necessary to change the magazine.

The men are in marching equipments and standing; the cartridges are taken from the cartridge boxes.

The time required to charge the magazines of the rifles submitted by Major Kropatschek, being increased by the absence of a cartridge stop, the experiments were carried on at Cherbourg, with his modified arm, that is furnished with a cartridge stop. This arm will be designated in the rest of the work as the modified Kropatschek rifle.

TIME NECESSARY TO CHARGE THE MAGAZINE.

ARM.	Charge of the Magazine.	Average time necessary to fill the magazine.	Average time per cartridge.	Shortest time obtained during the experiments for filling the magazine.	Shortest time per car.
	Cartridge's	second.	second.	second.	second.
Hotchkiss....	5 in mag. 1 in cham.	12,18	2,00	11	1,53
Kropatschek.	6 in mag. 1 in cham.	17,5	2,50	"	"
modified....	6 in mag. 1 in hop'er 1 in cham.	18,75	2,34	17	2,12
Krag.....	8 in mag. 1 in cham.	21,9	2,42	20	2,22

It is seen that the magazine of the Hotchkiss is the quickest changed; the Kropatschek and Krag require about the same time per cartridge; if anything the Kropatschek has a little advantage. The Krag tires the loader by necessity of continuing a pressure on the lug of the hammer to keep the block down, whereas the hopper of the Kropatschek remains of itself in that position.

Comparison, for each Type of Arm, of the Quickness and Useful Results of Repeating and Single Shot Firing during the time necessary to empty the Magazine

Arm.	Target.	Distance.	Quickness		Average Quickness.		Ratio of average quickness of repeating the single shot firing.	Useful effect		Average useful effect.		Ratio between the average effect of repeating and single shot firing.
			Single shot.	Repeating.	Single shot.	Repeating.		Single shot.	Repeating.	Single shot.	Repeating.	
Hotchkiss.	met.	met										
	2x3	200	1 052	1 796				613	1 076			
	2x2	200	927	2 006				696	1 488			
	70 long.	100	1 583	2 833	1 259.5	2 508.5	1.90	1 583	2 833	818	1 539.5	1.88
		200	1 329	2 833				556	1 416			
1.80 high.	300	1 333	2 750	920	1 500							
	400	1 333	2 833				5 0	1 422				
Kropatschek.	2x2	200	1 059	1 687				692	915			
	2x3	200	1 077	1 846				714	258			
	70 long.	100	1 148	2 222	1 177 "	2 015 "	1.71	1 059	1 996	735	1 121	1.53
		200	1 222	2 111				745	1 122			
	1.80 high.	300	1 222	2 222	758	998						
	400	1 333	2 000				440	1 444				
Krag.	2x2	200	966	365				701	624			
	2x3	200	1 147	774				450	409			
	70 long.	100	1 125	833	1 172 "	1 703 "	1.45	1 125	1 338	660	800	1.23
		200	1 167	1 834				747	754			
	1.80 high.	300	1 375	2 125	248	868						
	400	1 250	2 285				688	919				
Krop modified.	2x3	200	1 279	2 494	"	"	1.95	1 279	2 402	"	"	1.88

ARM.	TARGET.	DISTANCE.	Quickness of Repeating fire.	Average Quickness of Repeating fire.	Useful effect.	Average Useful Effect.
Hotchkiss.....	Met.	Met.				
	2x3	200	2.338		2.338	
	70 long	100	3.504	2.951	2.438	1.953
Kropatschek (modified)....	1.80 high.	200	3.000		1.084	
	2x3	200	2.494		2.402	
	70 long	100	2.838	2.815	2.250	2.059
	1.80 high	200	3.114		1.524	

If we take as before, for our unit the quickness of fire of the Hotchkiss, we have, for that of the Kropatschek, the same number as before—0.95.

The Hotchkiss rifle has therefore the most rapid fire; next and very nearly approaching it is the Kropatschek modified; then the unaltered Kropatschek, and finally the Krag.

The principal cause of the inferiority of the latter arm in regard to quickness of fire was the constant difficulty of working it.*

It must be observed that the firing was executed with:

5 cartridges in the magazine plus 1 in the barrel for the Hotchkiss.

6 cartridges in the magazine plus 1 in the barrel for the Kropatschek.

8 cartridges in the magazine plus 1 in the barrel for the Krag.

The speeds of firing are abstract numbers without real significance, because they supposed the repeating fire to continue for a minute, a period much exceeding that necessary to empty the magazine.

We can draw, however, from these speeds by very simple calculations, numbers that would represent the results that could be obtained even in active service. This is what has been done in the following table which gives for the space of time necessary to discharge the magazine of each type of rifle, the number of shots that could be fired by a battalion of 1,000 men armed with them, according as they use single shots or repeating fire:

COMPARISON OF THE NUMBER OF SHOTS THAT CAN BE FIRED BY A BATTALION FIRE, SINGLE SHOTS OR REPEATING, DURING THE TIME NECESSARY TO DISCHARGE THE MAGAZINE.

Arm	Average Time Necessary to Empty Magazine.	Number of Shots Fired by a Battalion of 1,000 Men, During this Time.	
	Seconds	Single Shot	Repeating
Hotchkiss	14.35	3,011	6,000
Kropatschek	20.84	4,090	7,000
Kropatschek Modified	16.84	3,590	7,000
Krag	31.71	6,194	9,000

It must not be forgotten that the average times necessary to empty the magazine entered in this table are deducted from the average quickness of firing, which are given in the large table above.

The average speed of the Krag, 31.71, is much greater than can be obtained, and was due to the numerous difficulties in the working of the arm. The above table shows in effect that the speeds of repeating fire varied from unity to twice, and even to three times. The least time required to fire all the cartridges in the magazine was 24 seconds; the greatest 70 seconds.

Whatever may be the case, the preceding tables show without doubt the great advantage that the repeating rifle would give to troops armed with it at a given moment.

As to the useful effects, calling E equal to the useful effects of repeating and e equal to the useful effects of single shot firing, we have:

Hotchkiss	$E=1.88e$
Kropatschek	$E=1.53e$
Kropatschek (modified)	$E=1.88e$
Krag	$E=1.23e$

The useful effects are therefore considerably increased in repeating fire, although in a little smaller proportion than the quickness.

The useful effect of the modified Kropatschek has become, as we see, equal to that of the Hotchkiss. All these fires were executed by sailors and soldiers placed under the orders of the board; the men were in marching rig, and acted, as they would have in active service, if they could have preserved the same coolness as on the polygon. The results obtained should not therefore be compared with those that might be obtained by men specially drilled; they only represent what sailors or soldiers ordinarily well drilled can do.

The board tried still further to assimilate the circumstances to those of actual combat, as will be seen in the following paragraph:

2. Comparison of the number of shots that could be fired by a line of skirmishers firing single shots (magazine empty) or repeating during the time required to empty the magazine.

The men were supposed to form part of a line of skirmishers on the march, to whom the order "commence firing" is suddenly given. Some fired single shots, others repeated.

The results tabulated in the following table go again to prove the immense advantage of this latter mode of firing, whatever may be the arm used.

There is nothing remarkable in this number of shots, and it is not to be doubted that the result of issuing only two or three such pieces to a company would be "nil"; but when we suppose the 250 men to be armed with the modified Kropatschek for example, in 17s. 3 they could fire 2,000 shots, whereas,

* Probably due in part to the fact that the arm was of a system different from that to which the men were accustomed and against which they were probably prejudiced. The same arm in the hands of Englishmen or Turks would probably give entirely different results.—TRANSLATOR.

ARM.	Duration of fire.	No. of shots fired.		OBSERVATIONS.
		Single shots.	Repeating.	
Hotchkiss	15	3	6	Starting with magazine opened.
	15.8	4	6	Starting with magazine closed.
Kropatschek	16	4	7	Mag. closed. (7 cartridges in arm.)
	17.3	4.5	8	Mag. opened. (8 cartridges in arm.)
	17.2	4.7	7	Mag. opened. (7 cartridges in arm.)
Krag	20.4	4	9	Starting with magazine opened.

with the rifle, model 1874, or the Kropatschek firing only single shots, they could fire only 1,125.

At a given moment such a difference could have a decisive effect.

3. Comparison of the quickness and useful effects of the three types of arms during the time necessary to empty the largest magazine.

An essential element in the comparison of repeating arms, is the number of cartridges contained in the magazine.

The speeds and useful effects as defined heretofore, supposed a fire, as rapid for a minute, as it was for the time necessary to empty the magazine, whatever that period might be.

Thus, let us suppose two pieces, one holding ten cartridges and the other twenty, firing the first in twenty seconds, the second in forty, the quickness of fire is the same in both cases; the useful effects (if the arms have the same ballistic qualities) will also be the same, and yet it is not to be doubted, that if two detachments, the one armed with the first gun and the other with the second, were face to face, the latter would have a great advantage over the former.

The board in order to show the importance of the number of cartridges held in the magazine, proceeded as follows:

The three rifles of each type, total nine arms, were fired simultaneously all repeating. The distance to the target was 150 metres; the screens were twenty metres wide by two metres high. The same men fired alternately the three types of arms.

The fire was stopped at the instant when the last shot of the Krag, the piece having the largest magazine, was fired.

The other arms as soon as their magazines were exhausted took up the single shot fire.

For elements of the calculation of quickness, the length of the firing period and the number of cartridges fired by each arm were taken, and for elements of the calculation of useful effects, the length of the firing period and the number of bullets which struck the target. The following results were obtained:

ARM.	Quickness.	Useful Effects.
Hotchkiss	1.841	838
Kropatschek	1.867	1,043
Krag	1.244	803

The quickness of the fire of the modified Kropatschek had always been inferior to that of the Hotchkiss; the difference changes its sign, however, in the preceding table. This is an evidence of the advantage gained from the number of cartridges contained in the arm.

They tried still further to approach the conditions of actual combat, and the following trial was made:

4. Comparison of the quickness of the three types of repeating arms by a line of skirmishers during the time necessary to empty the largest magazine.

The men were supposed to form part of a line of skirmishers on the march, to whom the order to "commence firing" is suddenly given. They started sometimes with the magazines open, sometimes with the magazines closed.

ARM.	Starting with the magazine open.		Starting with the magazine closed.	
	Average duration of firing.	Average number of shots fired.	Average duration of firing.	Average number of shots fired.
Hotchkiss (8 cartridges).....	Seconds. 25	8.25	Seconds. 24.85	7.00
Kropatschek (mod.) (8 cartridges)....	25	9.30	24.85	8.00
Krag (9 cartridges.)	25	9.00	24.85	9.00

The Krag, rifled, worked well during this trial,

which caused the anomaly shown in the previous table to disappear.

The difference in favor of large magazines becomes still more evident.

From the numbers given in this table, we can conclude that a company of 250 men, starting with magazines closed, would fire in 25 seconds—

With the Hotchkiss.....1,975 cartridges.
" Kropatschek (modified).....2,225 "
" Krag.....2,250 "

Firing single shots the same company in the same time would have fired—

With the Hotchkiss.....1,309 shots.
" Kropatschek (modified).....1,330 "
" Krag.....1,218 "

The repeating fire would thus cause again—

For the Hotchkiss.....666 shots.
" Kropatschek (modified).....895 "
" Krag.....1,832 "

5. Comparison of quickness and useful effects of arms of the same type in single shot firing (empty magazines), and in repeating firing, during a space of time longer than that necessary to discharge the magazine.

They wished to show by this experiment that the magazine having been emptied, the man would have fired better to fire single shots than to re-charge his magazine and again use repeating fire, which would seem to be self-evident.

To execute this fire, one man fired single shots with an arm; another commenced at the same time to charge the magazine of a similar arm; he then fired all the cartridges, re-charged the magazine, and so on; during this time the first man continued single shot firing. The fire was stopped when the fourth magazine full was discharged.

Arm.	Target	Distance	Quickness of fire.		Useful Effect		Ratio between useful effects of repeating and single shot firing.
			Single shot.	Repeating.	Single shot.	Repeating.	
Hotchkiss	Met 4	1270	1.055	0.83	1.177	1.055	0.90
Kropatschek	X 200	1.180	0.919	0.78	880	637	0.72
Krag	4	1.306	0.988	0.74	1.118	805	0.80

The single shot firing is the most rapid. These results were obtained with the unmodified Kropatschek. The addition of a cartridge stop having increased the rapidity of loading and the quickness of repeating firing, the difference given in this table would be decreased; but the advantage would still be with the single shot firing.

The useful effects follow the same law as the quickness of fire, which was easily foreseen.

Besides the difficulty which would be found in causing the magazine loading to be executed under fire, and the inconvenience that would result from an intermittent fire, the repeating fire under the conditions indicated would be less advantageous than that by single shots.

In these trials, as in all those that were made in the course of the experiments on the quickness of fire and the results, the men were not satisfied with only aiming at the screens, but they also aimed at the bull's eyes.

The table which follows gives the rectangles containing all the shots that struck the target for each of the two series of firing which served to establish the average results given in the preceding table:

Arm.	Rectangle containing all the shots which struck the target 4 met. X 4 meters at 300 meters distance.			
	Single Shot.		Repeating.	
	Height.	Breadth.	Height.	Breadth.
Hotchkiss	Met. 2.46 2.31	Met. 1.57 2.30	Met. 1.92 2.70	Met. 1.67 2.45
Kropatschek	2.98 2.33	2.65 3.39	2.18 2.30	2.37 2.85
Krag	2.75 2.78	3.79 3.02	2.49 2.66	1.96 3.04

It will be noticed that the repeating fire is generally better grouped than the single shot firing. We are, therefore, certainly led to believe that men will fire at least as well repeating as they will in single shot firing.

3. AVERAGE DURATION AND MINIMUM DURATION OF THE REPEATING FIRE OF THE CARTRIDGES OF THE VARIOUS MAGAZINES.

We can admit for the average duration of the repeating fire of the magazine cartridges, these results:

ARM.	Number of cartridges.	Average duration of the repeating fire.	
		Total.	By cartridge.
		Seconds.	Seconds.
Hotchkiss	6	14.4	2.40
Kropatschek (modified)	8	19.2	2.40
Krag	9	24	2.66

Some of the men were very adroit and with much exercise were able at the end of the board's experiments to arrive at the following minimum results:

ARM.	Number of cartridges.	Minimum duration of the repeating fire.	
		Total.	By cartridge.
Hotchkiss....	6	Seconds. 10	Seconds. 1.66
Kropatschek (modified)....	8	14	1.75
Krag.....	9	17	1.88

4. PASSING FROM REPEATING TO SINGLE SHOT FIRING AND THE REVERSE.

Several attempts were made to measure the time that these operations required for each arm, but these attempts resulted in nothing; the very short intervals could not be measured by any of the means at the disposal of the board.

CONCLUSIONS.

1. The Hotchkiss rifle is the easiest and quickest in regard to charging the magazine; next comes the Kropatschek, and, finally, the Krag.
2. The rapidity of the repeating fire in the three types as compared to the single shot firing, is in the following proportions:
2 to 1 for the Hotchkiss and Kropatschek rifles.
3 to 2 for the Krag.
3. The quickness of repeating fire is about the same with the modified Kropatschek and Hotchkiss rifles; it is less with the Krag.
4. If the duration of the firing is prolonged beyond the exhaustion of the cartridges in the magazine, the advantage, all other things being equal, is with the arm having the greatest number of cartridges in its magazine.
5. The magazine once empty, it is better to employ single shot firing than to continue repeating.
6. The passage from single shot firing to repeating requires an inappreciable length of time.

[We shall publish next week the description given of the four arms experimented with, and the cuts accompanying it; also the remaining chapters of the report.—ED. JOURNAL.]

OUR OWN ORDNANCE REPORT.

The report of our own board of Army Ordnance officers on magazine guns made about the same time as that of the French naval board is as follows:

Report of the National Armory, Springfield, Mass., September 23, 1878.

In pursuance of General Orders No. 115, from the headquarters of the Army, dated December 18, 1877, the Board met on the 3d of April, 1878, and has continued in session—with the exception of such adjournments as were authorized by the Secretary of War and necessitated by the delay of inventors—up to the present time, when a compliance with instructions from the Secretary of War, limiting the time for reception of arms, has terminated its duties.

The Board, in the discharge of these duties, has tested all the guns presented uniformly and in the manner that seemed to it best adapted to determine the question of their suitability for the military service, as well as to determine their comparative merits in that respect.

The regulations for the trials adopted by the Board are given in the appendix.

Its experiments to test the liability of accidental explosion of cartridges in the magazine seem to show that there is little probability of such explosion when using the inside-primed service-cartridge, or even with the exterior-primed cartridges direct from the factory, when fabricated and inspected with the care and attention usually given them. With cartridges reprimed in the field or garrison, risks may be introduced which have not come within the scope of the investigations of the board.

From the satisfactory manner in which the Hotchkiss gun, No. 19, has passed these tests, and from its combination of strength, simplicity, and great effectiveness as a single loader, the Board is of the opinion that the Hotchkiss gun, No. 19, is suitable for the military service, and it does, therefore, recommend it as such.

J. G. BERTON,
Lieutenant-Colonel of Ordnance, President of Board.
F. H. PARKER, Major of Ordnance.
J. P. FARLEY, Major of Ordnance.

(Indorsement.)

ORDNANCE OFFICE, WAR DEPARTMENT,
WASHINGTON, October 1, 1878.

Respectfully submitted to the Secretary of War, with the recommendation that the report and recommendation of the Board on Magazine Guns be approved, and that this department carry out the provision of law by expending at the National Armory \$30,000 in the manufacture of the Hotchkiss magazine-gun, No. 19.

S. V. BENET, Brigadier General, Chief of Ordnance.

Approved: GEO. W. MCCHART, Secretary of War. October 1, 1878.

The following magazine-guns were received and entered on the docket:

Number of Gun.	Name of Gun.	By whom Submitted.
1.....	Franklin.....	Gen. W. B. Franklin.
2.....	Ward Burton.....	Chief officer Nat. Armory.
3, 5, 8.....	Sharps.....	Sharps Rifle Company.
4.....	Hunt.....	C. B. Hunt.
6, 14, 16, 30.....	Lewis-Rice.....	Lewis-Rice and Lewis.
7, 10.....	Buffington.....	Major Buffington, U. S. A.
9, 12, 18, 19.....	Hotchkiss.....	Winchester Arms Company.
11.....	Burton.....	B. Burton.
13.....	Winchester repeater.....	Winchester Arms Company.
15.....	Springfield-Miller.....	W. H. Miller.
17.....	Remington.....	R. Remington and Sons.
21.....	Folsom.....	Whitney Arms Company.
22, 23.....	Bargess.....	Whitney Arms Company.
24, 27.....	Springfield-Clemmons.....	G. F. Clemmons.
25.....	Lee.....	James Lee.
26.....	Chaffee.....	H. S. Chaffee and J. N. Reece.

GATLING GUNS FOR RUSSIA.—The Philadelphia *Times* of recent date says: The belief held for months past, that the Russian vessels fitting out at Cramp's yard would not sail for the Old World without including in their cargoes American arms and ammunition, have proved to have been well founded. That New England cartridge makers have shipped tens of thousands of rounds of cartridges to this city, consigned to Russian officers at Cramp's yard, is a fact, and that New England gun makers have shipped a number of the latest improved Gatling guns is equally true. The shipments began in September, and have been going on at intervals ever since. Nothing could exceed the caution with which the whole business has been conducted. No well have the Russians at Cramp's yard, and those interested with them, kept the secret that out of nearly two thousand men employed there probably not ten knew that for weeks past the large warehouse at the head of Nyce's lumber wharf has held guns and ammunition enough to stock a fort. Nyce's wharf adjoins Cramp's on the lower side, and has been leased by them to accommodate the Russian ships. 87 boxes shipped here from Springfield, Mass., contained altogether 175,000 rounds of ammunition. On every box is this information: "For Evans' Magazine Gun, Model 1877. 44xL C. F." They are consigned to "Lieut. Van Lansk, of the steamship *Asia*, Cramp's yard." This lot is but a small part of what have been received. On the 12th of November three hundred and fifty boxes came on the Providence line of steamers, from Providence, R. I. Altogether eight hundred and thirty-seven boxes have been received and stowed in the *Asia* and *Europa*. The first and second batches are different from the last lot. The former are intended for rifle guns. The lot of 87 boxes are for Gatling guns. These guns, or the lot received so far, are of the eight-barrel style, with the latest improvements. Like all Gatling guns they receive the cartridges through a hopper, a crank is turned and they are fired off as rapidly as the hand of man can supply them. Six of these guns have been received up to the present time and three caissons. The caissons came from Springfield and the guns from Providence. The weight of the guns is fifteen hundred pounds each. In the shipment of them, as in the sending of the cartridges, the same caution and secrecy has been observed. The guns and their belongings were boxed up in sections, with the exceptions of the wheels, which, being stripped of their running gear and everything else that might have suggested their identity, came openly and were hauled up to the yard from the Walnut street wharf.

It is not expected by any one reasonably informed in affairs at Cramp's yard that the guns and ammunition already received are all that are coming. The shipments have been timed to suit the convenience of the vessels receiving them. The first lot of cartridges went on board the *Europa*, which was the first vessel completed. The after shipments of both guns and ammunition have been divided between the *Europa* and *Asia*.

The *Africa*'s cargo is yet to be made up, and the guns and ammunition, which are pretty certain to form a part of it, may be even now on their way here. As to the use these arms and the ammunition are to be put to there is a wide difference of opinion among men. A large and reliable majority of those who have been cognizant of the Russians' actions for several months past, say they are for field service in Russia and scout the idea that they could be used for anything else. There are others who hold to the belief that they are intended to deal destruction from the decks of the Russian ships in the event of difficulties in the Old World, which might put them to sea as cruisers after English merchantmen.

This latter class will not be satisfied when the fact is pointed out to them that these guns and the ammunition are boxed up and stowed away in the ships as cargo. They argue that it is easy enough to conceal the real purpose in this way and to afterward, when the opportunity arrives, put the guns together and make them available on the ships at short notice. The readiness of persons to take up this belief was illustrated at the yard yesterday. The Russians are constructing elevated bridges over the deck of the *Asia* for the ship's watch. This was pointed to by some as a sign of preparations for manning the Gatling guns when they get to sea.

(Contributed to the Army and Navy Journal.)

"SEA FOAMS," OR "NAVAL YARNS."—NO. X. SHANGHIED!

THE clouds were drifting to the westward at the giddiest speed, chased by a wild, gusty, and naughty wind, which whirled the dust and drove it into the eyes of the ugly sex who stood watching the uplifted dresses of the pretty ones, and admiring their dexterity in keeping down the folds which otherwise would have displayed well to nodd ankles and admirably formed legs.

It was the same wind which drove me up Market street in chase of a hat that rolled ahead at locomotive speed, and would have continued going so, had it not come to a halt on the front stoop of a house on which was a large sign:

"Wanted for the U. S. Navy! S. amen, Ordinary Seamen, and Landsmen."

It happened after Bull Run fight.

As I stooped over and grasped my hat, the heavy pattering of the rain made itself heard. The deluge was coming. The nearest shelter was in the entry to the stoop opposite which I stood, and therein I dafted.

"Sharp squall that, ship mate," said a gruff voice at my elbow.

"Yes, indeed," I replied, "nasty weather."

"Nothing like it at sea, sir," retorted the stranger;

"no dust there. In royals and top gallant sails, down flying jib, brail up spanker, up main sail, up top mast, stay sail, down jib, clew down top sails, haul out reef tackles, up helm and let her rip. That's the talk, sir! See you are a sailor; know it by the cut of your jib."

"You're mistaken, sir," I replied. "I was but once at sea; a passenger, when coming to this country."

"S a sick, eh?"

"No, sir. I was of the fortunates; I did not suffer."

"Not suffer! Lucky boy; make a capital top man."

And the stranger went in door, spoke inaudibly to a third person, came out provided with an umbrella, cast a look to windward, and said:

"All right; clearing up. Damp outside, dry in. Will you wet your whistle, sir? Capital stuff 'round the corner, very."

So saying he slipped his arm within mine, and without awaiting a reply, led me to a bar two doors from what I subsequently learnt was the Naval Rendezvous.

As he entered the rum-shop, he led the way to a table where sat a flashily dressed, heavy man, with a repulsive face, whom he addressed:

"Jack Simpson! You at anchor here; what's in the wind?"

And then turning to me, asked:

"Your name, sir?"

"James Hennessy," I replied.

"Mr. Hennessy, permit me to introduce you to Mr. Simpson. My name is McCabe."

McCabe was a tall, portly man, with rubicund, vulgar appearance, which the best broad cloth and newest fitting dress could not improve. The very handling of the aromatic cigars which he whiffed, showed his low origin—but also success in life. His shoddiness was apparent.

The strangers conversed in a language almost incomprehensible. Their conversation related to men-of-war, easy times thereon, good rations, and pay, etc.

In the mean time we drank and repeated drinks. I became communicative, boisterous. I soon saw the bar, bottles, and my companions whirling before me. Then I lost consciousness.

"Hello, there! Rouse up ship mate or you'll be ducked. What's that damp swab under your head? I see. Carried too much sail yesterday, and topped over."

I opened my eyes drowsily, and saw, leaning over me, and shaking me by the shoulder, a fine looking young fellow, dressed in the garb of a man-of-war-man.

"Where am I?" I exclaimed. "How came I here?"

"Where! Between these two guns on the deck of the receiving ship *North Carolina*, where you're likely to remain till you get drafted to a sea-going vessel. Guess my friend you've been shanghied; you look boozy."

"Shanghied! What do you mean?"

"Got drunk; made to ship; brought on board. Know Jack McCabe and his chum?"

As he spoke who should appear but my companion of the night's debauch, Mr. McCabe.

"How do you feel, sir? Nice vessel this. Been messed and berthed yet? Will use my influence to get you a good ship."

"Sir," I replied, "I don't understand you. I'm confused. I find myself on board of a strange vessel, surrounded by people I am not acquainted with; my clothes changed; indeed, my identity lost. What am I to think of this?"

"Why, don't you recollect our meeting day before yesterday; our drinking together; you getting a little in the wind, insisting on shipping—my advice to the contrary—passing the physical examination; signing the shipping articles under a purser's name; accepted, and sent here?"

"I shipped! I'm no sailor, sir; never was aloft in my life, and can't believe that I ever signed the shipping articles, nor authorized any one to do it for me."

"Liquor must have placed you out of your reckoning, my friend," said McCabe, shaking his head doubtfully. "You not only signed the articles as Samuel Oliver, but also wrote the name on a slip of paper and pasted it in your cap."

So saying, he raised my cap, and there, sure enough, in my handwriting, was the name Samuel Oliver.

At this stage of the proceedings, an old man, whom I afterward learned was an accomplice, came up and addressed me:

"Say, ship mate, I've heard what's going on twixt you two. Take an old Tar's advice; clap a stopper on your tongue, heave up your anchor and follow in the wake of the other boys. 'Taint no use growling; you've got to make a cruise. You can't prove no more nor I could that you've been shanghied. No one will believe it, and if they did, they could n't slip your cable, so you'd better get your small stor s on board, drop in your watch, and take to your rations regular as if you're used to them. Once Uncle Sam gets a grip of you, you can't git out of his clutches no how. So when you hear the word passed for somebody, look in your cap; if it's your name, sing out, 'Hi! Hi!'"

About noon I heard a shrill whistle, then a tall dark fellow yelled:

"Samuel Oliver! Where's Samuel Oliver?"

"Aye! Aye!" I replied, and added, "but that is not my name."

"Not your name. Then why in the devil do you answer for?"

"Because I was told to do so."

"Guess you're a greenhorn; let me see your cap."

He looked at the name, pushed me aft, and said:

"Lay aft on half deck, to verify your outfit."

I went aft to the door of an office where I was handed the thinnest black neck tie I had ever seen; trousers with ample room for a man twice my size; number ten boots, though I wore eights. The balance

of the outfit was not only out of proportion to my body, but of the most inferior quality.

And that was not all. A bill for one day's board, sundries, etc., with acceptance; Samuel Oliver, in my handwriting.

It was paid, and the balance checked against my account. I protested I had no recollection of the debt; 'twas no use. Desertion was out of the question; we were too well watched for that. I had to perform a cruise and did so.

After verifying my outfit I had a faint recollection that while under the influence of drink I had been asked by McCabe to sign Samuel Oliver on a blank piece of paper. This gave me a clue to my condition.

Well, I made a cruise; a very pleasant one. I learnt a thing or two, and came home prepared to get square with Jack McCabe. He had disappeared. He is perhaps cruising under the purser's name, or, what is more likely, settled down as a respectable Christian and pillar of a church.

I was not the only shanghaied one; there were other poor fellows who had been drugged and stolen from their friends, and who had undergone the extortion of some of the petty and non-commissioned officers of that scandalous receiving ship, where money was lent to the tars at the rate of 100 per cent. per month.

It was during war times; they were on the make. That, too, without the knowledge of the officers, who were very busy drafting ship's company. They were unable to attend to the minor details of ship's life; hence the extortions of the subordinates. Several of these hearties left incomes to their broods.

BOB STAY.

THE FITZ JOHN PORTER COURT.

The proceedings before the Porter Court of Inquiry have at length reached the final stage, and Messrs. Maltby and Bullitt of General Porter's counsel have occupied several days in summing up, being followed by the Recorder of the Board, Major Gardner. The following interesting correspondence has been presented in the evidence during the past week:

WASHINGTON, April 18, 1874.

Gen. U. S. Grant, President of the United States:

MR. PRESIDENT: It is no doubt known to you that General F. J. Porter claims to have procured evidence since his trial, not attainable at the time, which would either quit him of the crime of which he stands convicted or greatly modify the finding and sentence of the court-martial before which he was tried, and that he has embodied in a printed pamphlet the kind and nature of this evidence, and what he expects to establish by it, together with an appeal for a rehearing of his case. It is widely asserted by those who are in sympathy with him, and probably believed by many who have no personal interest in his case, that influences hostile to him have restrained you from examining this statement of his case, and have thus worked great injustice, by preventing the executive power from considering statements of evidence which might vindicate his reputation. It is needless to say to you that I have never used any influence with you, personal or other, to prevent the investigation of his statements, nor even intimated to you in any manner that I objected to any action you might think proper to take in the premises. Nevertheless, as I am not willing even to seem to consent to any additional misconception concerning me or my action in this case, I beg, if you have not already done so, that you will yourself, Mr. President, examine as fully into the question as you think justice or mercy demands, or that you will order a board of competent officers of high rank, unconnected with the armies or transactions involved, to investigate fully the statements of this new evidence made by General Porter, and report to you what bearing, if any, it would have upon the findings and sentence of this court-martial, even if it could be fully established. I am, sir, very respectfully your obedient servant,

JOHN POPE,

Brigadier Major General United States Army.

President Grant laid this note under consideration until May 9—about three weeks—and then replied as follows:

EXECUTIVE MANSION,
WASHINGTON, D. C., May 9, 1874.

MY DEAR GENERAL: Your letter of April 18, in regard to your position in the matter of a rehearing of the Fitz John Porter court-martial was duly received. You are under the apprehension that I had not fully examined the case, or rather that the public so thought, and that you had used means to prevent me from giving the subject fair consideration. In reply, I will make two emphatic statements: First, to the best of my recollection, I have never had but one letter from you on this subject prior to the one I am now answering, and that simply contained the request that, if I contemplated reopening the case, I would examine both sides. I read during the trial the evidence and the final findings of the court, looking upon the whole trial as one of great importance, and particularly so to the Army and Navy. When General Porter's subsequent statement was published I received a copy of it, and read it with care and attention, determined, if he had been wronged, and I could right him, I would do so. My conclusion was that no new facts were developed that could be fairly considered, and that it was of doubtful legality whether, by the mere authority of the Executive, a rehearing could be given.

Yours truly,

U. S. GRANT.

As to the allegation of the petitioner that he was on the best terms with General Pope for several days after the battle, and that his conduct was never called in question except as an afterthought when the disastrous campaign was closed, Major Gardner offered an attested copy of an order from President Lincoln, dated September 5, 1862, directing an inquiry into the conduct of General Porter on Friday, August 29, where he was, and why he did not take part in the action; also an inquiry respecting the conduct of General Franklin and of General Griffin during the campaign, the former having been four days and four nights on the way from his former position to Manassas. The report of the proceedings under this order were also offered, together with a letter from Secretary Stanton to General Halleck,

dated August 28, 1862, as to what orders had been given to the Army of the Potomac to move from the James river, whether such orders had been obeyed with promptness; what orders had been issued to Franklin, and whether such orders had been obeyed as promptly as the imminent peril demanded. The report of General Halleck in response to this request was submitted, together with the materials embodied therein, respecting the failure of Porter to move upon the enemy as several times directed between August 27 and 30, 1862; those respecting the case of Franklin, and those respecting the conduct of Griffin. A controversy ensued, and the documents were not admitted.

(From the London Times, Dec. 30.)

RESISTANCE OF COAL ARMOR.

EXPERIMENTS WITH THE OBERON.

FURTHER experiments were made on board the old *Oberon* hulk at Portsmouth on Monday afternoon, under the superintendence of Capt. Herbert and Lieut. Acland, of the *Excellent*, gunnery ship, with the object of practically testing the resistance of coal armor to the penetration of shot and shell discharged at short range. Mantelets and chain armor have been tried without success as a protection for the unarmored sides of merchantmen suddenly summoned to perform war service, while cork and oskum have also been tested with similar results. At length some one hit upon the happy device of utilizing the coal bunkers as a protection, and of surrounding the engines with a zone of coal armor, as in the case of the *Hecla*. In the course of last year the value of this coal armor was subjected to a practical test at Portsmouth, where the *Oberon* was fired into from a 64 pounder gun at 200 yards. Altogether seven projectiles were discharged, four being shells containing a burst of 7 lb. The whole of them penetrated the first loose plates, and one burst open the upper deck, but none succeeded in perforating the protection, nor was any portion of the coal set on fire by the burst. It therefore follows from this experiment that the *Hecla* would be perfectly secure against the fire of her own guns.

The experiments of Monday, which were witnessed by Rear-Admiral Hamilton, the Director of Naval Ordnance; Mr. James Dunn, Assistant Constructor and Chief Draughtsman at the Admiralty, and Captain Labrano, the Italian Attaché, were intended to test still further the resistance of coal under more stringent conditions. The conditions so far as the internal fittings of the target were concerned, were substantially the same as on the previous occasion. Two compartments were constructed along the side of the *Oberon* by means of bulkheads extending from the main to the upper deck. These compartments, which were each about 19 ft. long, 6 ft. high, and from 8 ft. to 10 ft. deep inwards, were filled with coal; No. 1 being packed with loose Welsh anthracite coal, and No. 2 with cubical blocks of compressed patent fuel. Through the bunkers thus formed a couple of boiler plates three eighths of an inch thick were introduced vertically through the coal, which thus acted as a kind of backing to the iron plates. When it is added that the deck, which had been much strained by all sorts of rough usage in the way of mine and torpedo explosions, had been strengthened for the occasion, all is said that need be with reference to the experimental protection for the machinery of unarmored ships. Six shots were fired from the *Boodhound*, gunboat, three against each compartment, at a distance of 100 yards, or at just half the former range. Instead of a 64 pounder being used, the 4 1/2 ton gun was brought into requisition. A 112 lb. chilled shell, with a 24 lb. charge and a 2 1/2 bursting charge, was first fired at each target; then a double shell, with a 14 lb. charge of powder and a 13 lb. bursting charge, was fired at each; and, lastly, two similar shells, with 24 lb. charges and 13 lb. bursting charges. At the end of each second round each target was carefully examined, and it was found that no apparent damage whatever had been done except the penetration of the outer skin of thin iron. The whole of the projectiles easily penetrated the side and first bunker, but none succeeded in forcing their way through the coal barrier, neither did the burst inflict any material damage to the deck. No defect was visible on the inside of the ship, and the coal had not been set on fire. After the experiment the ship was found free from leakage, and is still good for further battering. The exact damage done to the boiler plates cannot be ascertained until after the ship has been cleared of the coal.

After such a successful resistance to the exception ally close ranged battery of the 90 cwt. gun, coal may be accepted as a very efficient protection for the machinery and boilers of our merchant ships where those important parts are above water; and the value of this new arm to the naval service for the protection of our commerce is materially enhanced. Captain Singer, who has just returned from a most successful experimental cruise in his typical merchant ship the *Hecla*, with which he is about to join the Mediterranean fleet, may now feel not only that he will carry a powerful offensive armament in his guns and torpedoes, but also that his ship has most efficient defensive qualities in the coal which surrounds her engines and boilers.

WANTED—A CHANGE OF WEAPONS.

To the Editor of the Army and Navy Journal:

SIR: A board of distinguished officers, with that active and successful leader General Miles for its president, has been convened to consider the subject of equipments for the Army. Now, while this is a matter of importance and great necessity, as many changes are needed, still, it seems strange that its range should not have extended to include small arms as well. For the past ten years our little Army has been furnished with the same weapon—the Springfield—which in its time was a good gun, but its day having passed it seems remarkable that the Ordnance Department, which we rather hold responsible, should not have recognized the fact and given us a new and better one.

Our frontier warfare has been particularly severe for the past three years, and our loss in officers and men greater in proportion to the number engaged than for the same time during any portion of the civil war. In looking back upon the different engagements we find they have all possessed the same general characteristics—viz: a charge upon the Indian village, then settling down to a sharpshooting skirmish with, in some instances, a counter-charge made by the Indians, as at Little Horn and Big Hole. Now, when our men had muzzle-loading guns, and the Indians bows and arrows only, there was no question as to success and a fair degree of certainty that the loss would be small.

An entirely different phase is presented at present.

The Indians are armed with the best magazine-guns like the Winchester's, and long range, accurate rifles like the Sharp's and others. This gives them great advantage for close work, and deadly certainty at long distances; and this taken in consideration with their life, education, thoroughly trained, speedy and hardy ponies, makes them the best irregular cavalry in the world. So many urgent appeals have been made by officers serving on the frontier for a better rifle and carbine, that it has grown to be considered a hopeless task to make an effort for any change. Particularly against the carbine have bitter complaints been made. The Indians say that many of the carbines which they obtained from the dead soldiers at the Custer massacre had shells in them which the ejector had failed to extract and would not extract. In this fierce wild struggle for life were brave men going down to death absolutely unarmed at the mercy of their savage foe. No wonder that the Indians rushed in and killed many with their war clubs as they claim they did.

Now, as long as we have Indians we will have Indian outbreaks and wars. Our Government cannot check the tide of emigration. The iron hand of extermination has been clutching at the heart of the red man for a long time, and finally it will crush and kill it, but not in the near future; and during this time we must meet the conditions of the problem so far as fighting them is concerned. We cannot erect school houses where the children could be constantly kept from early childhood rationed, clothed, educated, and thus change entirely the character and status of these people; but we can consider the material we have to work with and utilize it to the best advantage, not clinging tenaciously to the sabre after it has become so much dead weight, or the carbine after it has become nearly useless, simply because these things seemed pregnant with the idea that they made cavalry and were essential to its existence as such.

Our men are brave, but they are only indifferent riders and fair shots. Our horses under fire are extremely difficult to manage, and this, of course, increases the uncertainty and inaccuracy of any fire from their riders. First, then, to promote this efficiency, we should have a larger and heavier Smith and Wesson pistol with a buck and ball cartridge, which at short range either in making or repulsing a charge would add immensely to the force of the onslaught and greatly to the power of resistance.

General Miles, in his practical article recently published, advances this same idea, and Captain Wright of the Ordnance has made a step in this direction with his invention of a three-ball cartridge. I have adopted the Smith and Wesson action, as it possesses so many advantages in extracting shells, and reloading while on horseback over any other. With the old 50 calibre carbine shooting at a target at a thousand yards, the curvature of the trajectory was so great that a man on horseback could, with impunity and safety, ride between the object fired at and the person firing. The 45 calibre is much better, and the 40 still more horizontal. The flatness of the trajectory being particularly important with men unaccustomed to measure distances with the eye, makes the adoption of the 40-calibre desirable, and Sharps' rifle of this calibre seem to possess, for mounted troops, better and more perfect qualities than any other. It is of a desirable weight and length, its butt stock is especially strong, it is very accurate for long ranges, its breech block combines strength, durability, and simplicity. Some improvements could, undoubtedly, be made on this weapon before its adoption for Army use, but that it is far better than the Springfield carbine there can be no question, and that there is a grave necessity for a change no one serving on the frontier doubts. Every other government which pretends to be a power has during the past few years made an advance and improvement in small arms, while those who are responsible in ours have sat stupidly down and blindly refused to recognize that any change was needed, or that circumstances demanded any progress. Directly the country will be aroused, and will not hold those guiltless who should have been alive to the necessities of the present, to say nothing of the future, and the shadow of criminality will rest on those who pay no heed to the recommendations, requests, aye, entreaties of the men who have to meet danger, and, through imperfect arms, death, on such fields as Little Horn and Redbud Rivers, Big Horn and Wolf Mountain, Big Hole and Bear Paw.

CAVALRY.

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A. A. Myer, U. S. Army; Brig.-Gen. I. N. Palmer, U. S. Army,
Omaha, Neb.; Brigadier-General L. P. Graham, U. S. Army;
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TO OFFICERS AND EX OFFICERS OF THE U. S. ARMY.

New York, January 10, 1879.

As stated in the ensuing document, the undersigned is au-
thorized by the Government of the Republic of Colombia, to
engage a professor to teach military science in the Civil and
Military Institute of Bogota. Persons with best references can
apply, during the next fifteen days, to Post Office box 2723,
N. Y.

FRANCIS J. CIRNEROS.

NUM. 627.—UNITED STATES OF COLOMBIA.

NATIONAL EXECUTIVE POWER,
DEPARTMENT OF WAR AND NAVY,
Bogota, October 18, 1878.

Señor Francis J. Cirneros,
Colon.

The Executive has been authorized by law to estab-
lish a Civil and Military Engineering Institute, and to contract,
through, with three professors who will engage to give military
instruction.

Making use of this authority, and desiring that said Institute
may be put in operation as soon as possible, the Executive has
resolved to authorize you, as it does by the present note, to con-
tract with a professor capable of teaching the following
branches:

1st. Permanent and field fortification; military mines and
bridges; attack and defence of fortified towns and places;
engineering constructions, the materials, time, hands and ex-
penses required to erect them.

2d. Artillery materials and service; tactics; constructions or
parks for the same.

3d. Organization, armament, and uniform equipment, and
instruction for moving and feeding an armed force in peace or
war; infantry and cavalry tactics; military march and manoeu-
vres; strategy; staff service; castrametation and political part of
the science of war.

4th. Military legislation.
5th. A general class of lineal drawing; on laying and coloring
of plans, maps, geographical charts and military drawings, and
graphical solutions of geometrical problems on artillery fortifi-
cations.

You should make contract with the professor to whom this
authorization refers in the United States of America; and the
Executive expects from your activity and interest in favor of
Colombia, that this commission will be satisfactorily fulfilled.
I remain, your sure servant,
E. HUERTADO.

VANITY FAIR for Meerschaum and Cigarette. See Advertisement.

We direct the attention of inventors and manu-
facturers to the circular we publish under our Army
heading, from the Board of Army Equipment, in-
viting them to present themselves with their plans
for improvements in the equipment of troops.

U. S. ARMY AND NAVY JOURNAL.

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THE PROPRIETORS OF THE ARMY AND NAVY JOURNAL seek,
during the coming year, to accomplish two things for the benefit
of subscribers: First, To very considerably increase the
amount of interesting matter included in the weekly issues of
the paper, and next, to furnish this matter at a price less than
they are compelled to charge, with the present circulation
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will not limit themselves to the largest number, as additional
subscriptions will be received at the same rate.

THE PROBLEM OF NAVAL GUNS.

THE bursting of a 38-ton gun on H. B. M. turrel-
ship *Thunderer*, on the morning of Jan. 2, kil-
ling two lieutenants, two petty officers, four seamen
and a marine, and wounding a boatswain and thirty-
two men, twelve very badly, besides disabling the
turret, has formed a sinister naval opening for the
New Year.

Yet one would say that 1879 could hardly, in
time of peace, accumulate a worse record of naval
disasters than the years that have preceded it. Last
year was made sombre by the loss of the *Eurydice*
and the *Grosser Kurfuerst*; in the previous Novem-
ber happened the loss of the *Huron*—all three at-
tended with terrible loss of life; in 1875, the *Van-
guard* and the *Magenta* were lost; in 1870, the *Cop-
tain*; and there of course have been many minor
catastrophes that we need not pause to catalogue.

The British navy has had its full share of these
disasters, despite its proverbial multiplicity of rules
to guard against them. As for the *Thunderer*, the
late accident in the Sea of Marmora was not its first.
On July 14, 1876, its foremost starboard boiler, in
the after-stroke-hole, exploded, with unprecedented loss
of life, while the ship was on a preparatory run for
its measured mile full-power trial. The report of
experts showed that the boiler burst from excessive
pressure, owing to the stop-valves being shut, and
probably sticking. Now, however, we have an ac-
cident of a different sort, affecting the question of
ordnance construction. The *Thunderer* originally had
two 35 ton, 12 in. Woolwich guns in each of her two
turrets, like the *Devastation*; but afterwards, in the
forward turret, two 38-ton 12 1-2 in. Woolwich guns
were substituted in the forward turret, in conse-
quence of the advent of the Rendel system of working
heavy guns by hydraulic pressure. This system,
first introduced on the *Dreadnought* and *Inflexible*, the two
most powerful vessels in the British navy. The
Dreadnought carries four of these 38 ton guns, worked
by hydraulic pressure; the *Devastation*, four 35-ton
guns worked by hand-power; the *Neptune*, late In-

dependencia, four 38 ton, besides two 6 1 2 ton Whit-
worth's; the *Inflexible*, four 81-ton guns. These are
all the British ironclads carrying guns above the 25-
ton to be found in the *Monarch*, *Alexandria*, *Téné-
raire*, *Superb*, *Belleisle*, *Orion*, *Glatton* and *Hotsper*.
The bursting of the *Thunderer's* gun becomes a
specially practical consideration for the *Dreadnought*
and *Neptune*, at least, since these have guns of the
same calibre and workmanship.

According to Admiral HORNBY, the gun burst just
in front of the trunnion, the muzzle blowing over-
board; it had been fired with a battery charge, but
when it burst it was loaded with a full charge and
an empty shell. The 38-ton gun is a muzzle-loader,
and has shown great penetrating power. Against a
target composed of a 12 in. iron plate, an 8 in. plate,
6 inches of teak and a 5 in. plate, it sent its projec-
tile through all but the latter, which it penetrated
two inches—altogether, 23 inches of iron and 5
inches of teak. It has sent its projectile entirely
through a target composed of a 4 in. plate, an 8 in.
6 inches of teak, and a 5 in. plate, 6 inches of teak
and a 1 in. plate—in all, 18 inches of iron and 12 of
teak. Finally, at 70 yards range, with 130 pounds
of 1 1-2 inch pebble powder, it sent a projectile
weighing 812 pounds nearly through a target com-
posed of three plates each 6 1-2 inches thick, with 5
inches of teak between them, making 19 1-2 of iron
and 10 of teak—the shot made a clean hole through
all but the last 6 1 2 inch plate, in which it broke up.
This was with the unchambered gun; chambering
has allowed the burning of 200 pounds of powder,
with an increase of striking velocity, at 70 yards,
from 1421 feet to 1525 per second.

Yet, in the other scale, despite these really remark-
able figures, is the overbalancing practical fact that
the *Thunderer's* 38 ton gun burst; and bursting is what
the English artillerymen at Shoeburyness could not do
for the now discredited 15 in. American smooth-bore
though they tried very hard. It has always been
claimed as an advantage of the Woolwich guns that
they would not burst explosively. Col. BEXTON, in
his valuable report of 1875 on European ordnance,
after describing the operation, which he witnessed,
of welding a coil for a 12-inch rifle, at Woolwich,
says, "one great advantage claimed for the Wool-
wich system is, that its guns do not burst explo-
sively." We shall not, of course, with absolutely
nothing yet officially or even unofficially made pub-
lic, as to the cause of the recent disaster, undertake
to volunteer explanations or theories about it. But
we think it worth while to recall a remark which
Chief Engineer KING makes, when describing, in his
Report on European Ships of War—accepted as stan-
dard authority—the hydraulic machinery for running
the gun in and out of the fore turret of the *Thun-
derer*. He says: "An objection raised to this sys-
tem is the alleged liability to premature explosions in
loading, and, as a consequence, the risk of self-
destruction to which, it is said, the ship is thus ex-
posed." He adds, however, the answer which the
friends of the system make, namely, that the danger
can be "obviated by not depressing the gun for load-
ing to such an extent as to aim a shot below the
water line," and also by a special arrangement for
drenching the bore of the gun with water in spon-
ging. But he adds, as if not satisfied that the danger
had wholly gone for the *Thunderer*, "and it is en-
tirely removed by the arrangement that will be
applied to the *Inflexible*, in which the loading gear
is placed so that the gun is little depressed when in
the loading position."

Meanwhile, the first practical effect of the calamity
in England will probably be to bring the Whitworth
guns a little more into public favor; while its effect
with us will be to strengthen the conviction that
when Congress authorizes and orders the building of
heavy ordnance for our forts and ships, as there is
ground to hope it will, the system to be followed
should be American, both as to theory and work-
manship.

THE INDIAN SERVICE.

MR. SCHURZ promises to respond very soon to the
reply of the Lieutenant-General upon the former's
strictures. This is not surprising. Mr. SCHURZ is
well skilled in the arts of controversy and rejoices in
them; and Geo. SHERIDAN, unless his late legal ex-
perience has given him a taste for rejoinders, rebut-
ters, surrejoinders, and surrebutters, might as well

make up his mind to allow the Secretary of the Interior the privilege of the last word. But, whatever the issue of the present debate over the frauds and foibles of Indian management, we think it timely to say that there is no warrant for assuming that Army officers have engaged in it simply for the purpose of securing the transfer of Indian affairs to the War Department. "I should say," declared Senator BURNSIDE, during the last Army appropriation debate, "that two-thirds or three-fourths of the Army officers—at least, nearly all the leading Army officers, are opposed to the transfer. I am speaking now from the information I have gathered from observation and conversation and association with officers." Our own observation and conversation lead us to the conclusion that a very large number of Army officers look with decided disfavor on the proposed transfer.

The truth is that, in its very nature, the new responsibility is one that most Army officers would neither seek nor evade. What should make them eager to assume it? The management of the Indians is an ungrateful task, full of difficulty even when performed with the greatest fidelity and integrity, and surrounded with so much public odium by reason of past feebleness, failure and fraud, that the Army would inevitably risk much in its hitherto unspotted reputation, by being mixed up in it. More especially would this now be true, since, at the present stage of Indian civilization, there must in any case be a large civilian element connected with supplies, trading, agriculture, schooling, religious instruction, and the various details, of Indian progress towards self support and citizenship. Under the War Department, any errors or shortcomings of Indian management, proceeding from whatever cause, would be charged against the Army; in addition, the Army would antagonize a very powerful and far reaching interest that seeks now to retain the Indian Bureau where it is, and would seek hereafter by all possible means to have it put back under the Interior Department, in case it should ever be taken away. The Army has already difficulty enough every year in Congress to hold its own, without seeking new enemies, new embarrassments, and new causes of reproach. Gen. SHERIDAN has well said that the Army is compelled to essay more than it can fully attend to, and as much as any other country would ask of an army of sixty thousand officers and men. It is not probable that the transfer of the Indian Bureau to the Army would increase the rank or pay of a single officer, except in the case of such retired officers as might be assigned to Indian duty, and raised to full pay.

There is a stake, however, that Army officers have in the proper conduct of the Indian service, by whatever department it is undertaken. This is the stake that all patriotic citizens have in good government—in economy, in good faith, in the just treatment, by Government officers and agents, of people who come under governmental control, whatever their race or color. If the scores of feeble or fraudulent agents, traders, and agency hangers-on who have been hunted out from at least half a dozen agencies since Secretary SCHURZ assumed control of his department, cannot understand this, at least the Secretary himself, and men of his stamp, should understand it. The obligation resting on Army officers is all the greater from the fact that they are often the only Government officers on the spot where mistakes or frauds occur, who both see the wrong and are willing to speak out against it.

ATTACKING THE HOLY-STONE.

It is certainly no lack of appreciation that has caused us to delay noticing Medical Inspector Turner's vigorous pamphlet entitled "Air and Moisture on Shipboard," which he aptly styles a fragment of applied physiology. The subject at once commends itself as of the highest importance, and Inspector Turner quotes as a text the dictum of Lévy, that "of all the atmospheric agents, the humidity of the air is the most dangerous to the crew." Commodore Shufeldt, in his annual report for 1877, made special recommendations for securing better ventilation to the lower decks of vessels, and by charts showed the inefficiency of the present ventilation. The Revised Statutes, section 4253, prescribe the minimum air-space allowance for passengers, but in a war ship the working of the

battery and the handling of the ship cause inevitable over crowding. Inspector Turner goes into a series of elaborate calculations and measurements, showing the actual impurities which result, taking the quantity of carbon dioxide as the basis of impurity. The recorded observations of medical officers on a great number of vessels are also cited to attest the facts and conclusions of Inspector Turner. He also points out the specific diseases generated or assisted in development in bad air.

In May last, a board composed of Commander Bartlett, Chief Engineer Smith, Naval Constructor Fernald, and Medical Inspector Turner, who had been ordered to produce a plan for improved ship ventilation, made their report. The plan they proposed is simply a modified form of the Napier system of ventilation, and we may presume that, as it was approved by the Department, it will be applied in future construction and alterations.

The second point we note in this pamphlet is its condemnation of the too frequent washings of decks. In tropical climates, when heat seems to be excessive, humidity is gained by constant wetting of the decks. Medical Inspector Turner holds that "the natural humidity of the air on decks at sea or anywhere else should never be supplemented by artificial means to render it saturated." He inveighs against the "daily water-soaking" to which decks are subjected, and calls the "routine washing, holy-stoning, wiping, clamping, scrubbing, etc.," a "barbarous wielding of a potent disease-producing weapon." To show to what an extent the daily scrubbing is carried, he quotes in full from the routine on the *Tennessee*, *Minnesota*, etc., and the following summaries from official papers:

Wyoming.—August: Spar deck wet 4, berth deck 31 times.
Onesipe.—December: Spar deck every morning when not raining, berth deck 6 times.

Enterprise.—June: Spar deck wet 20, berth deck 10 times.
Plymouth.—June: Spar deck wet 26, berth deck 6 times.

Saint Louis.—June: Spar deck wet 39, berth deck 4 times.
And in one first-rate during the month of June all decks are reported dry on two occasions.

There appears, therefore, a capriciousness in this matter which should not exist. In some instances that have come to the knowledge of the writer this wetting of the decks has been delegated to the petty officers of the ship, and has been determined upon by some oracular Bunsby, whose opinions are founded upon the way they used to do in those "good old times" to which he so fondly reverts and in which he so implicitly believes. The whole practice is a relic of those days—of the days of Paul Hoste, Benbow, Van Tromp.

Indeed, Inspector Turner suggests that the practice was derived from old Capt. Noah, who, however, we would remind him, weathered the largest storm on record, and brought his ship's company all safe and sound to port.

Inspector Turner next cites a vast number of authorities to show the superiority of the health record in dry ships, and notes that Admiral Foote on the *Varuna*, and Medical Director Maxwell on the *Powhatan*, diminished large sick lists by abating the constant wetting of the decks. His general remedy would be this: "Lacquer all decks below the spar deck; keep clean; keep dry; dry everywhere below decks, from the bilges and limbers upward. Once a month would be sufficient for all such cleaning purposes as are now suggested to keep alive this abomination." He hopes to see the day when the holy stone will be a curiosity, and its temple, the sand-locker, vanished from the face of the deep.

The pamphlet, as will be observed, is vigorous, and its subject is one of practical importance, in which those who have decided opinions, one way or the other, are entitled to speak them out.

We call attention to the valuable communication of Col. Hagner, in another column of the JOURNAL. Col. Hagner's long experience gives to his views in regard to Ordnance corps legislation unusual weight, and they should be pondered by Congressmen in the debate on the Army bill now begun. The Ordnance corps is undoubtedly slashed at savagely in the bill; it is singled out as a special victim for what we described in our remarks two weeks ago as the "one fatal concession to an imaginary need" in the bill—namely, attempting great reductions, where the only need is of readjustment and reform. The bill does not, it is true, consolidate the ordnance and artillery, as had been proposed, and it does recognize the unquestioned claims of the department for a distinct and peculiar personnel, by providing that only artillery officers shall be detailed to it and promoted in it. But the bill undertakes to get rid, in one way or another, of many officers, a considerable part of whom are to be marked for the reserved list.

We confess ourselves unable to see the wisdom or economy of turning adrift men whose experience and natural aptitudes have made them extremely valuable to the service. More especially is this true now, when the question of ordnance is of the highest importance, and must hereafter receive greater rather than less attention than it has hitherto had. A provision for the more general education, in the future, of the younger officers in the subordinate duties, responsibilities and commands of both line and staff, thus also giving a wider range of selection, according to developed aptitudes for permanent higher careers in the one or the other, is quite different from the discarding of attested experience and merit already existing. Whatever changes may be proposed in the Army organization, they should all be measured by this test: that we have not a single officer of ability and experience in any part of the Army whom we can afford to lose.

A fortnight ago, the too enthusiastic discounters of English victories in Afghanistan had Shere Ali "saying himself with all his legs," as our French friends call running away. They had the Ameer already in Turkestan, under Russian convoy, Yakoob Khan, as vice-Ameer, on his knees at Jalalabad, and the Afghan war over. Since then, a soberer view has been taken of affairs. Yakoob Khan has not yet sued for peace, though he may; the Ameer's flight from Cabul had not carried him far out of Afghanistan, at last accounts; it is not clear that Cabul may not yet be defended, and even Candahar, to say nothing of Herat. Meanwhile, some turbulent and unconstructed mountaineers have been cutting telegraph wires and plundering packtrains in the Khyber Pass, thus necessitating action by Gen. Sir S. Browne in looking out for his communications. Still, the sum of all is that the British advance has thus far been well planned, steady, cautious, vigorous, and successful; and now Gen. Biddulph is close upon Candahar.

It is of course idle to sound the depths of the Afghan mind with an Anglo-Saxon plummet. But, on any theory, Afghan or American, what has the Ameer accomplished by his performances in the fatal year 1878? He was under no compulsion to receive the Russian embassy; under none to reject the British; under no necessity to delay answering Lord Lytton's notes of inquiry till too late, and then to answer them evasively. Never was there a more voluntary rush to ruin than this monarch's. Now he sees himself stripped of the tremendous, cloud piercing ramparts of his kingdom, to the east and southeast, bereft of the allegiance of millions of his old subjects, all his prestige gone, forced to release his son Yakoob Khan by the clamor of his dissatisfied nobles, himself a fugitive, and with nothing whatever to compensate these swift and terrible losses in the other balance—not a solitary prisoner taken from his enemy, nor a dollar of spoils, nor even the satisfaction of a creditable resistance, such as a monarch believing himself wronged ought to oppose to his foe. It suits Gen. Kaufmann to underrate these disasters, but they tell their own story.

THE *Detroit Post and Tribune* takes our article of Dec. 27, on the treatment of Captain Ericsson by Congress, as the text for an editorial, entitled "A National Shame." "This," it says in concluding, "is the shameful history of the dealings of the United States Government with Capt. Ericsson. It is the fault of Congress, not of the War or Navy Departments. The departments know his merits, and have recommended his claims; but Congress pays no heed. Other inventors of improved arms have had the same experience. All the civilized nations of the earth, except the United States, have paid for the use of the invention of Colt's revolver. The United States manufacturers of improved breech-loading rifles supply the armies of Europe, and are liberally dealt with by other nations; but the United States never buys their inventions nor their arms, but manufactures its own small arms, and ordered a board of experts to steal from various inventors a breech-loading combination. The United States was first to invent heavy rifled guns; but the Government never paid the inventor. These facts constitute a national shame. Congress boasts of its economy, partly exhibited in this sort of meanness; while scores of thousands are squandered in extravagant investigation humbugs. It is high time to occasionally, at least, hold the mirror up to the country, that it may

see itself as it really is, and not as it appears in Fourth of July orations and buncombe speeches."

Swamps will have to be a good deal cheaper than now, to pay for beating into ploughshares, and spears, too, would make better ornamental fences than they would pruning books; but that cannon can certainly take the place of quinine, recent Asiatic experience bears witness. Bagdad is associated in most American minds with viziers, boiling oil and old brass lamps, and is not really appreciated as an extant city. It is, however, not only extant, but fever smitten, and quinine costs so much that the poorer classes use instead an old gun, which is believed to have miraculous healing and preventative virtues in fever epidemics. Crowds of Bagdadders struggle day and night to rub against this cannon—for at night it is lit with lanterns, being mounted on a platform in a public place—and, unlike many physicians, the dumb doctor has no fault found with him. Who shall say that the power of imagination may not have made this piece of artillery more effective in healing than any Bagdad apothecary, and that many a sufferer may not have gone away relieved, because his faith in the ordnance has made him whole?

THE Government of the United States of Colombia, South America, has been lately authorized by law to establish a Civil and Military Engineering Institute, under the direction of the Department of War and Navy. Authority has been given to engage here one of three professors to fill various chairs in the new institute. The names of these chairs will be found in the official notice by the representative of Colombia, Señor Francis J. Cirneros, which appears on page 396 of this number of the JOURNAL. Bogota, the capital of Colombia, where the new institute is to be located, is situated on the River Francisco, a branch of the Bogota, itself a branch of the Magdalena. It stands on an elevated plain 8,663 feet above the sea, at the foot of two lofty peaks of the Cordillera, and has a delightful though moist climate, resembling a perpetual autumn, the temperature rarely exceeding 59 deg. Fahrenheit. Bogota has a population of 40,000.

THE opening article in the December number of the "American Journal of Science and Arts," is an abstract, by the author, of the report on the Valley of the Minnesota River, and of the Mississippi River to the Junction of the Ohio; its origin considered by General Gouverneur K. Warren, Major of Engineers. Gen. Warren thinks that the origin of the excavation of the valley is comparatively modern, and that it was from the operation of forces producing, probably, uniform results, and in a way of which we have some approximate comprehension in general from our knowledge of special localities. "Van Nostrand's Engineering Magazine" for January, publishes a letter from Gen. H. L. Abbot, Major of Engineers, on the "Physics of the Mississippi River," in reply to the article of Jas. B. Eads in the September number of that magazine. It must be apparent to every reader, says Gen. Abbot, "that the personal animosity constantly exhibited by Capt. Eads toward the Chief of Engineers, and which marks every page of this review, unfits him from taking a fair view of the subjects discussed. This has led him not only to misrepresent the real issues, but to introduce one entirely irrelevant." "The above facts," says the General, in concluding his conclusive showing up of Capt. Eads, "furnish such a commentary that their simple presentation is more severe than any language which could be employed. I leave the reader to draw his own inferences—mine being that any future attacks of this nature from Capt. Eads cannot be held to require notice."

We commence this week the publication of a translation by Lieutenant T. B. M. Mason, of the Navy, of a report recently made in the trial of magazine guns in the French navy, which is of special importance just now. It will occupy altogether, with the cuts illustrating the guns experimented with, some fourteen pages of the JOURNAL. To make room for it and for other interesting articles, we are obliged to add eight pages to this number of the JOURNAL.

The report is full of the most valuable information on the subject of magazine guns, and will be found interesting, aside from this, for its résumé of historical facts bearing upon the question of their adoption.

THE important and pungent paper which the Chief of Naval Ordnance contributes to this issue of the JOURNAL conveys in brief space a great deal of valuable information on the subject of the "Conversion of Guns." The points so clearly and vigorously made by Commodore Jeffers will add, we think, to the general conviction that whenever Congress awakens

to its duty in regard to the need of more powerful ordnance, the methods and the means of supplying it can be found on our side of the ocean.

CONGRESS has, up to the hour we go to press, done nothing with the Burnside bill which was not brought up on Wednesday, as was intended. In the Senate it was thrown over for other business, and the House was occupied with the eulogies upon and the funeral ceremonies over one of its members. Of course there is no end to the discussion and wrangling about the bill, but this amounts to little, and, in spite of the wise newspaper prophecies, no one can tell what reception the measure will meet with in Congress. That body is certainly much less interested in the bill than the Army, and it is likely to fail for want of time, even though there should prove to be a majority in its favor. Propositions for amendment are numerous, and some of them strike at the fundamental principle of the bill. Mr. Hewitt expects to have ready this week an appropriation bill providing for an establishment of 25,000 men. It is not true, by the way, as stated by one of the Washington papers, that General Sherman and General Hancock dined on Monday with one of the Committee on Reorganization, Gen. Banning.

GENERAL SHERMAN still holds to his opinion that the Burnside Bill is, as a whole, the best bill ever offered, and that if defeated by reason of minor defects the Army will catch a worse one next year. This he takes occasion to say though he does not purpose to take any active measures for the support or defeat of the bill.

OPPOSING THE BURNSIDE BILL.

THE arguments against the Burnside bill have been gathered into a pamphlet just published. The history of the present organization of the staff corps is briefly stated, showing that it is the careful considered work of Mr. Calhoun, Secretary of War in 1831, and Mr. Pointexter, Secretary of War in 1838. The pamphlet next quotes, not only from Secretaries Crawford, Calhoun, and McCrary, in favor of the present system, but also from Gen. Sherman's annual report for 1869 and from Gens. Sheridan, McClellan, Hancock, Pope, Franklin, Meade, Thomas, Marcy, Ferry, Kautz, Crittenden, and Getty, all of whom have expressed themselves impartially in favor of the present system of a sub-division of staff duties into departments under corps of trained specialists.

These opinions are supported by a quotation from Sir Archibald Alison, who, writing upon army organization, says:

It is not too much to say that an army sent into the field without efficient and thoroughly well organized and long previously trained staff and supply departments is an army foredoomed to defeat and failure, and that no expenditure at the moment, however lavish, can supply these wants or avert this doom. Our army which embarked for the Crimea in 1855 was the finest that country ever produced, but it was bound together by a rope of sand, and it melted away like snow before the first touch of the hardships and inclemencies of winter, and this was the direct, necessary, and inevitable consequence of the ignorant economy of the Parliament of Great Britain in not sustaining in time of peace proper staff and supply departments. The green mounds in the quiet graveyards hard by Sebastopol, where this same system (the defective staff and supply organizations) has laid in that still abode an army, rank and file, attest this. Our peace staff and supply departments should, therefore, be so organized that they could instantly furnish the number of fully trained officers required in their respective branches for our army upon a war footing.

The pamphlet also contains a letter from Colonel Walter H. Taylor, late Adjutant-General of the Army of Northern Virginia, under Lee, dated Norfolk, Dec. 28, 1878, who says:

I do not hesitate to say that in my opinion the disorganization of the several staff departments of the Army would tend greatly to impair the efficiency of the Service. The fact should never be overlooked that the theory upon which our military establishment is organized and conducted involves the volunteer feature as the great reliance of the country in the event of war. It is, then, most important to have experienced and tried organization staff departments in time of peace to render the Army of volunteers efficient in the event of war. An officer of the line assigned occasionally and for a short period to service in the several staff departments could not acquire that degree of efficiency in any one to enable him to act intelligently when the occasion should arise for conducting matters on a war basis. Education and actual experience are as essential factors in the making of a good quartermaster or commissary as is the study of law or medicine, followed by long practice, to the making of a good lawyer or doctor.

Nor do I think there would result any real economy in the change proposed. Every inexperienced man assigned to the performance of new duties must acquire his experience at a certain cost or loss, and an interchangeable system would be attended, in my judgment, with large items of loss, without a corresponding degree of experience or efficiency.

A statement has also been prepared for circulation in the Army, showing that the Burnside bill, if enacted, will not only greatly reduce the number of staff and line officers, but will practically put a stop to promotions of line officers during a number of years. It is shown that company officers of the line will lose nearly, if not quite, as much promotion by the abolition of the field offices in the staff corps (vacancies in the lower grades of which are almost invariably filled by appointments from the line) as they would by the abolition of the same number of line offices; and it is also predicted that the practical operation of the provisions concerning the proposed "reserved list" will be to transfer staff officers from that list to vacancies occurring in the line.

THE Army Committee of the Hungarian Delegation, after a long debate, has voted the amount of 1,712,000 florins required for adapting the Werndl rifles to cartridges of increased strength.

CORRESPONDENCE.

The Editor of the ARMY AND NAVY JOURNAL does not hold himself responsible for individual expressions of opinion in communications published under this head. His purpose is to allow the largest freedom of discussion consistent with propriety and good feeling.

AN ERROR CORRECTED.

To the Editor of the Army and Navy Journal:

SIR: My attention has been directed to an erroneous statement in a communication published in the JOURNAL of the 21st instant, dated Washington, Dec. 18, 1878, signed "Ebbitt," in which my name is included as of "those who will go upon the reserved list—having arrived at the age of sixty, and upon the retired list having reached the age of sixty-two."

I have not the honor to be included in either of the classes mentioned.

Your insertion hereof, or note of the correction, requested, will confer a kindness on

Your obedient servant. H. B. BURNHAM,
Judge-Advocate, U. S. Army.

STAFF AND LINE.

To the Editor of the Army and Navy Journal:

SIR: Your issue of Saturday last states in explanation of the pamphlet referred to in a former issue, under this title, that it was an "official document presented to the Honorable Secretary of the Navy." If this be so, by whose authority were 250 copies of it printed in pamphlet form and circulated among line officers and others supposed to be in a position to influence Congressional opinion? If this "official document" were intended only for the Honorable Secretary, to whom it was addressed, and who is so "respectfully requested to transmit this statement as a memorial to Congress, with such recommendations as he may deem proper," why has it already been placed in the hands of members of Congress? The "Naval Officer" who has vouchsafed this explanation, probably knows that this so-called memorial was originally an arraignment of the Secretary for his *illegal* acts, and that it was only subsequently put into its present shape as a matter of discretion.

ANOTHER NAVAL OFFICER.

THE BOARD OF NAVAL ASSISTANTS.

To the Editor of the Army and Navy Journal:

SIR: The bill for a Board of Naval Assistants and the petition for the restoration of Executive authority, bid fair to fan to a white heat the feud between the Line and Staff. It is the old, old story, a conflict between "the unpretending great and the arrogant little." The Line—a close corporation claiming the Navy as its own—regard Staff officers as mere adjuncts—"necessary it is granted, but still adjuncts," and so deny them military equality. The Staff claim military equality in the military organization to which they belong, and demand a full recognition of the rights, honors and privileges conferred by their commissions, in the same manner and to the same degree as it is found in the Staff of the Army and in the line of the Navy. To this extent, no more! As none but the Line can rid them of "secondary importance" to the so called military branch, and as they cannot be "civil officers" because they are subject to military law (which has no authority over civil officers or civilians), they naturally object to any rule of subordination which will not equally apply to the Line. This appears to be the head and front of their offending.

The Line want entire control of the Navy—its government, organization and discipline, and arrogate to itself the sole responsibility for efficiency. Imagine a steamboat company or a great railroad corporation controlled by captains, railroad conductors or locomotive drivers. Could they best decide upon their organization or management as a whole? Is it safe to allow one body of public servants to lay down rules or to dictate terms to others? It cannot be done in this Republic, and the sooner it is understood the better.

There is but one way to settle the vexed question between the Line and Staff; but one way to secure unity, harmony, subordination and discipline. Settle it upon the Army basis! Divide the service into corps as at present. Let each corps (as in the Army) have its present number of officers of various grades, and abolish in toto all civil titles. This will make all officers military even to the satisfaction of the Line, and no trouble can then occur on the score of rank or subordination. COMBATANT.

We publish the two communications preceding this with a *nom de plume*, but must hereafter insist that all communications relating to the controversies between the staff and line should be accompanied by the signatures of the writer.—EDITOR JOURNAL.

ARMY POST SCHOOLS.

To the Editor of the Army and Navy Journal:

SIR: I have watched with attention, and noted with accuracy, the kind of teachers and mode of instruction in Army schools, and venture to say, under the present mode of appointment and pay of teachers, no great expectations need be anticipated nor will be realized.

Practical experience has demonstrated to my satisfaction that detailed soldiers from companies, subjected to all caprices and ruders after school hours, from so many masters, corporals, sergeants, 1st sergeants, and company officers, cannot and will not have that spirit, manhood, and authority calculated to grace and do justice to a position of such importance; nor will be able to give the subject requisite attention.

To attain and obtain the desirable and best results,

it is suggested that the grade of schoolmaster be established, with assimilated rank, pay, and allowances, of highest grade of non commissioned staff officer; and that one schoolmaster be assigned to each permanent post under the orders of the post commander, and an officer, say the adjutant, as overseer. The appointee could then take a live interest in his duties, and reap a good harvest. The assistant schoolmasters could be selected by details from companies.

"CONSISTENCY."

MUSICIANS OF THE ARMY.

To the Editor of the Army and Navy Journal:

SIR: Assuming that the Army bill is likely to pass this session, I think the band musicians of the Army should not be tardy in their endeavors to excite a lively influence in Congress in favor of the retention of regimental bands. They are certainly very little extra expense to the Government, as the instruments and other band property are paid for out of the regimental fund. There are throughout the service many old musicians who have served from ten to fifteen years in various bands in the service, totally unfit to perform the regular duties of a soldier; and there are many in the service to-day who would not have enlisted had they understood that they were liable to be called upon to carry a musket. Of course, there are many band musicians who understand the regular duties of a soldier, but I do not hesitate to say that two-thirds of them would be as awkward as recruits. The formation of a band and its movements on parade are very simple, and the musicians are not drilled in the manual of arms and the various company movements. They may, therefore, be in the service for twenty years, and yet be as ignorant of a soldier's duty as when they enlisted. Taking these facts into consideration, I would like to suggest that all band musicians of from eight to nine years, or more, continuous service, and in fact, all those whose terms of enlistment expire within twelve months subsequent to the passage of the new law, or to the date on which it may take effect, shall be granted the privilege, if they so desire, of taking their discharge. I think that such privilege would only be an act of justice to musicians of long service, and would save them from the odious training to which they would be subject if compelled to pass through the school of the raw recruit, and in numerous cases that would happen only a few months prior to the expiration of their terms of service.

MUSICIAN U. S. A.

A FRIEND AT COURT.

To the Editor of the Army and Navy Journal:

SIR: Is it not a little unfair that the artillery should have been represented on the military committee to the exclusion of all other branches of the Army? That the gallant captain of the 3d artillery was not a mere figurehead is proved by the manner in which he has looked after the interests of his own corps. For example: by the present law the Ordnance Department is recruited from the Army at large—infantry, cavalry, and artillery indifferently by competitive examination, and experience has proved that the brightest minds are not necessarily confined to the "ornamental branch of the service." But by the proposed law three-fourths of the Ordnance officers are actually turned adrift for the exclusive benefit of a few artillery officers whose duties do not assimilate to those of an Ordnance officer, one whit more closely than do those of the cavalry or infantry. Most of the Ordnance officers thus turned out came from the line of the Army, and have served from ten to twenty years.

The various staff departments are to be made schools of instruction for such social and political pets (no examination being necessary) as may be inclined to try the experiment; but while the artillery enjoy this privilege in common with the infantry and cavalry in all other departments of the staff, the last mentioned branches of the Army are jealously excluded from the Ordnance which the artillery has reserved exclusively for itself. Whether the committee were persuaded that the artillery officers were a brighter set of men than their more active companions on the plains, or that their comparatively idle and useless lives in the neighborhood of large cities better prepared them in some mysterious way to grapple with Ordnance technicalities, it would be difficult to say, but action was probably based upon a careful consideration of both of these excellent reasons.

J.

A REMINISCENCE OF FORBES BRITTON.

To the Editor of the Army and Navy Journal:

SIR: Referring to a "yarn," in a recent number of the JOURNAL, narrating the destruction of a shark by a dose of old cheese, thrown overboard by order of the commander of the ship, I am reminded of a characteristic story by our old friend, Forbes Britton, which may serve as one of a series that have been or might be noted, as offspring of his infinite humor.

When stationed at Jefferson Barracks some years since, B., one day, went up to Saint Louis, and while at the Planter's House, chatting with a group of gentlemen, he was accosted by the host, who invited the party to partake of "lunch" in the dining room. Amongst other edibles on the table was some veritable old cheese, which Britton pronounced splendid, declaring, if he "delighted in any thing it was old cheese," adding: "Mudgel you must give me a piece of this cheese." "Certainly!" was replied, and calling a servant, the host broke off a piece, about the size of his double-flat, wrapped a paper about it, tied and handed it to B., who repaired to a wagon that was waiting at the side door of the hotel for orders, directing the driver to "take the package down to the barracks and give it to Mrs. B.," with a message that he "would not return before the next morning."

B. said that the man took it down and delivered the

parcel to Mrs. B., at her quarters, saying, "Madame! here is something the Captain has sent for you; it is either broke or spoiled, I don't know which."

Mrs. B. perceiving, at once, what the paper contained, took it with her finger and thumb, and passing through to the "back porch," fastened it to a string that was depending from the roof, and drew the bundle up to the rafter, belaying the cord, where it remained during the night.

There were two venerable old goats attached to the garrison stables, some hundred yards from the quarters, whose presence there was notable from the "musky" aroma that filled the vicinity and annoyed all the residents, whenever the wind was favorable from their whereabouts.

Britton gave his assurance that these two goats found their way, that evening, to his back porch, and spent the night there, looking up at that cheese with an incessant bahl! ah! ph! ph!

REMINISCUS.

WASHINGTON, D. C., Dec. 30, 1878.

FISH OF ONE, FLESH OF THE OTHER.

To the Editor of the Army and Navy Journal:

SIR: In case the Army bill passes there is danger a serious wrong may be done. Since the war the general officers of the line, who fought the battles as division and corps commanders, and who returned to lower positions in the Regular Army at its close, with the tacit understanding that they would be gradually promoted to the grade of general officers as vacancies might occur, have seen those positions abolished by legislation, till the sixteen general officers then left have beer, and will be, cut down to six, in case the present law passes. And since these officers are not retired till reaching the age of 65, as the present incumbents are comparatively young men, and the tendency now is to appoint only young men to these positions, the prospect of the veterans of the war to regain their war rank as a fair and legitimate retiring grade for old age, has well nigh vanished.

But how fares the staff? They by their proximity to legislation have steadily, through personal influence, added to the number of their general officers, the grade being first created for the incumbent only, then made permanent, and finally by law the promotions are made to belong exclusively to these corps, until their two or three general positions have grown to nine, belonging exclusively to themselves. From the small number of officers in these corps, and as they will retire at 60 years, the chances make it almost certain that nearly all will arrive to the grade of brigadier-general as their retired rank, while such officers as King, Gibbon, Jeff. C. Davis, Getty, and others, who held the highest commands during nearly all the war, have been virtually shut out from these advantages so honorably gained, by the same legislation that is constantly adding to these advantages of the staff.

The new bill as introduced corrects this, and while it rightfully confines the practice of choosing the chief engineer, surgeon-general, and chief of Ordnance and artillery to these corps, it opens the general positions in the other corps to the Army at large. It does not exclude members of those corps, but it does place the Army at large on equal grounds with themselves.

It is probable a very strong effort will be made, in an effective, but quiet way, by telling half the story to personal friends among members, over a quiet cup of tea on other social occasions, or by a general canvass to defeat this provision. Of the great number of the staff on duty in Washington, there is hardly a doubt but each can count upon one, two, or more members, who is sufficiently his personal friend, to vote upon a measure of this kind in a way that will be most advantageous to his friend, all else being equal, which there is great probability will be the view members will have of it, if these staff friends are left as their only sources of knowledge, the parties of the other side being absent. For this reason it is deemed very important that means be taken to inform members fully on this point.

Should this provision of the bill be defeated, while the general officers of the line are reduced to six as is proposed, a wrong will have been committed which members will certainly feel ashamed of when the facts are known.

1861-5.

A FRONTIER OPINION.

To the Editor of the Army and Navy Journal:

SIR: I must say that nowhere do I find either in correspondence to your paper, public speeches, or elsewhere, opinions expressed upon Army organization, its interests and condition which are so generally sound and applicable as those set forth in your editorials. I have in my mind now, more particularly your editorial in the JOURNAL of Dec. 28th, commenting upon the bill for the reorganization of the Army, framed by the Joint Committee of Congress appointed during the last session for that purpose. It reflects my views exactly, and I should think those of a large majority of the officers, at least of the line.

But while we recognize the fact that there are some things in the bill which might, without detriment, have been omitted and others which might have been added with advantage to the Army and the service; still, viewing it as a whole, nothing has been proposed in the shape of Army legislation for many years which would seem to be attended with such beneficial results, both as to economy and efficiency, as its passage by Congress just as it stands.

Assuming that which seems to be a foregone conclusion, that reduction and reorganization is inevitable in some form or other, I think it is for the interests of all concerned that this bill should pass as presented by the committee.

I am very much inclined to the opinion of General Sherman that, if the bill does not pass as a whole it

will fail altogether, or if it should pass by striking out and amending, it will probably be much worse for us than if it had failed altogether. Therefore, I hope it will go through without alteration.

In this I express the views of all the officers whose opinions I have had an opportunity of obtaining.

Should it not be inconsistent with your ideas of propriety, I would be glad to see you, in behalf of the Army, urge this course upon Congress. I think it would give general satisfaction. Very respectfully,
FRONTIER.

FORT HAYS, KAS., January 1st, 1879.

COURT-MARTIAL SENTENCES.

WHEN THEY SHOULD BE CONSIDERED AS COMMENCING.

To the Editor of the Army and Navy Journal:

SIR: The sentence of a court-martial should be complete and perfect in itself, the power of the court to adjudge it admitting of no division. The action of the reviewing authority is executive, not judicial, and can only be exercised to remit or mitigate and approve the sentence, which must be fixed and definite in its provisions. Therefore the period of confinement should be given in turns, and not generally.

In consequence of the neglect of courts-martial to observe this rule it has become necessary for the Bureau of Military Justice and Department of War to establish certain rules, which are, in substance, as follows:

1. In cases where the sentences of courts-martial involve a confinement for a definite period of time, the confinement shall be considered as commencing at the date of the promulgation of the sentence in orders (if the person is in custody at the time), unless the time for its commencement is otherwise expressly fixed by the sentence of the court, or in the order promulgating the proceedings.

2. The above rule is applicable where the prisoner is at the place of confinement at the promulgation of the order, or at any other military post not a regular military prison. But when this is impracticable—as in the case of a sentence of imprisonment to be executed at a certain place or military prison designated—the time of imprisonment ordinarily commences on the day he is delivered to the officer who is charged with the execution of the order of his confinement. And this delivery would, of course, properly take place immediately, or as soon as practicable upon the publication of the approval of the proceedings by the reviewing officer. When there is considerable delay between the promulgation of the sentence and the arrival of the prisoner at the place of imprisonment, the delay should be made good by remitting so much of the sentence as will make up the time lost.

The foregoing, as to the commencement of the sentence, is the ruling of the War Department, and is believed to be sound; but to this Lieut. Regan, in his "Judge-Advocate and Recorder's Guide," recently published, takes exception for the reasons:

1. That it is too much dependent upon circumstances, and lacks the quality of fixedness.

2. That it is unjust to the soldiers serving at isolated posts and great distances from the reviewing authority, who frequently have to wait months between the date they are sentenced by the court and the date of promulgation of their case in orders, the intervening time which they serve in the guard house or prison being, in most cases, lost to them.

3. That it is inconsistent with the rulings of the Department, which claims (against the prisoner) that "the term now due, in a forfeiture, by sentence, of pay and allowances, refers to the day of the date of the sentence imposed by the court, and not to the day of the order promulgating the proceedings."

The Department of War perceiving the injustice of the ruling in the third reason here cited has directed in recent orders that "when the sentence is silent as to the date of commencement of the forfeiture, it will begin with the date of promulgation of the sentence in orders, and will not apply to pay accrued previous to that date. This will hold good whether the sentence imposes a forfeiture of a specified sum or are of a certain amount per month."

The new Regulations, which have never been approved, attempted to fix the commencement of sentences by the following rule:

"Except when sentence has been passed on an offender already under sentence, every term of penal servitude or of imprisonment is to be recorded to commence on the date of issuance of the General Court-martial Order promulgating the proceedings, unless thirty days shall have elapsed from the day on which the original proceedings and findings were signed by the Judge-Advocate and president, in which case the term of servitude or imprisonment shall be recorded as commencing from the date on which the proceedings, findings, and sentence were thus signed, unless the reviewing authority designates an intermediate or earlier one."

But to relieve all doubt, and to act justly toward the prisoner, the sentence should commence and be dated on the day it is authenticated by the president and Judge-Advocate of the court.

Therefore it would be proper in accordance with the rulings previously cited for courts-martial to make their sentences after the manner following, to wit:

And the Court does therefore sentence him, Private A. B., Co. —, Infantry, to be confined under guard at hard labor, at the post of his company, for the period of three (3) months, which will commence from the date as below authenticated.

FORT ———, January —, 18—.

C ——— D ———, Capt. — Infantry, President.

E ——— T ———, 2d Lieut. — Artillery, Judge-Advocate.

This course will obviate all doubts.

J. R.

* W. D. Orders, 1863: J. A. and R. Guide, p. 68.

† W. D. Orders, 1870: J. A. and R. Guide, p. 70. Digest J. A., p. 347.

‡ H. Q. A. Orders, 1878: J. A. and R. Guide, p. 71. Digest J. A., p. 350.

§ New R., p. 1984.

ATHLETICS IN THE NATIONAL GUARD.—In order to vary the monotony of army duty several of the organizations of the 1st and 2d Divisions have organized clubs for the purpose of developing the muscle of their members. A thorough system of training was indulged in during the fall, the result being shown in Brooklyn on New Year's eve by a most successful athletic entertainment in the arms of the 23d regiment. As this tournament consisted of walking, running, sparring, jumping, and a tug of war, in which every company of the regiment was interested, the excitement ran high, and as the tickets were limited they were necessarily in great demand. The main hall of the Clermont avenue armory was prepared for the games, the track being laid out and measured by Messrs. Cary and Tilden, civil engineers, one circle being one-twelfth of a mile; the fifty yards runs, tug of war and sparring being held in the centre of the room. The general arrangements were most satisfactory, and at 7:15 p. m. the judges, Messrs. E. Raynor, Howard and Geo. Crosby, of the New York Athletic Club, and Sgt.-Maj. Allen, starter, came on the floor and announced the first competition, which was a five mile walk. There were four entries, three of whom got off in good shape; E. Bagot, of Co. E, was late, one lap being consumed after he reached the track. His walking, however, was at such a tremendous pace that after the second mile was well under way he had made up for lost time. E. J. Barber, of Co. D, seemed to be the favorite, and to him Bagot paid particular attention, spurring with him, yet keeping just in his rear, until at the close of the first lap the fifth mile, when he let out, and though Barber made every effort to gain lost ground Bagot won the race in 50:32; Barber second, 51:23; H. H. Leland, Co. A, third, 51:11; Cokman, of Co. A, retired on the fifty-fourth lap. The 50 yards run was next, and after five trial heats, on the final was won by W. H. Handy, Co. K, in six and one-half seconds. In the half mile walk four contestants entered and was won in fine style by S. G. Chapin, Co. D, in 4:4. A funny interlude in the shape of a colored "cake walk" was next introduced, much to the amusement of the spectators, and was followed by a light wright sparring match between C. W. Compton, Co. D, and Fred King, Jr., Co. E. It was a good amateur rally, and was declared in favor of King in three rounds. The middle weights, Fred. B. Van Doorn, Co. D, and C. D. Stone, Co. K, next put on the gloves, and in three rounds, during which the "give and take" was most freely and recklessly indulged in, and the spectators immensely delighted. Stone was declared the winner, his style of sparring being the best in the opinion of the judges. A burlesque match was next called, during which the spectators were convulsed, followed by a half mile run with seven competitors; a broad running jump and a three legged race. In this five pairs started, the left and right legs of each pair being securely strapped together. F. Heron and A. A. Chasseaud, Co. K, were the winners. A one mile walk, in which ten men put in an appearance, and a sack race, closed this part of the entertainment. The tug of war was next in order, teams of twelve from each company, in trial heats. The respective merits of the men both for strength and endurance was amply tested, and a tough on the "dret drop" was not a few looked most formidable, the team from Co. F—Sergeant H. C. Smith, Sergeant Brigham, Privs. G. T. Miller, J. Randolph, G. Crawford, W. R. Gardiner, Jas. Murray, E. Roge, E. J. Smith, Andrew La R sa, J. J. Kenney and H. C. Brown—proved themselves the best men and were awarded the victory. Putting the shot and the greased pig race closed a meeting which was most thoroughly enjoyed by all, the medals being presented to the winners by Sgt.-Major Allen, during the first hour in the life of the New Year.

On January 3 and 4 the 1st Division entered the sports of the New York Athletic Club at Gilmore's Garden. Here, however, the walking and racing matches were ignored. Boxing was not indulged in; but the "tug of war" was most freely patronized, five teams from the 7th and one from the 9th regiment joining the competitors. This latter team were more tyros, and having been placed opposite the renowned Scottish-American team were easily disposed of, and were at once out of the games; on the other hand the 7th had planned individual competitions, company against company. In the trial heats Co. C had two teams headed by Valdo Sprague and George G. Stow, Sprague's team winning best and won in 1:31. It was not intended that these men should pull against each other, the teams intending to meet individually those from the other companies; the drawing, however, settled the matter, and Stow's team shook hands with those from the 9th regiment as defeated without a show for their lives. Cos. F and B were next pitted against each other, and after an excellent exhibition of science and muscle Co. B, under J. A. R. Dunning, were declared the victors in 3:29 1-2. On the second night the teams from Co. I and K, withdrawn on the 3d, were given the rope. Their executions were received with repeated yells, cheers, etc., from the enthusiastic members of the regiment, and when the team of Co. K were landed across the line in 1:49 great was the rejoicing. Then B and C met, Sprague's men having it all their own way and winning a stay in 1:45 1-2 seconds. The final tug was between C and K, and again were the victorious third company the recipients of cheers and applause, for they pulled K's team all in a heap in 2:20 1-2, and were awarded the handsome prize flags. The victorious team were: Valdo Sprague, captain; C. H. Bruel, Jas. Walden, John Gillies, Jas. C. Gillies, and J. E. McNicol.

FIRST NEW YORK BRIGADE (CITY).—Brig.-Gen. Wm. G. Ward, commanding this brigade, has promulgated the following orders: The brigade board of examiners, constituted under G. O. No. 1, series of 1878, are relieved from further duty. The thanks of the general commanding, are due to Lieut.-Col. Wm. G. Wilson, 12th regiment, president of said board, for his regular attendance, and for his conscientious discharge of one of the most important duties in the service. Pursuant to the provisions of section 86, Military Code, a brigade board of examiners is constituted, to ascertain the qualifications and fitness to hold commissions, of all officers elect, or who may be hereafter elected in the brigade during the current year. Detail for the board: Col. Josiah Porter, 22d regiment; Lieut.-Col. Henry Gimpel, 5th regiment; Major Jas. H. Jones, 12th regiment. The board will convene at the armory of the 23d regiment, 14th street, between 6th and 7th avenues, on the second Monday of each month, and all officers elect, or who may be hereafter elected in the brigade, are directed to report to the board for examination at the next session following their election.

EIGHTH NEW YORK (CITY).—Lieut. Colonel Schilling instructed the right wing, companies D, E, G and H, of this regiment at the State Arsenal January 8. The command was equalized in four companies of twelve files from A and was formed and presented in good shape by Lieut. Horgan acting adjutant. The march in column of fours was an excellent step, distances, and alignments being of the very best description. From time, divisions were advanced to the front in column of fours, and left front into line ordered. The first division executed the command in good shape, but the commandant of the second, clearly failed to com-

prehend the movement, and his division were much confused. The instructor straightened the line and ordered a repetition, which, but for the blunder of the left company who executed the front into line in double time, would have been correct. These movements were executed from the left in fair shape. The double column of fours was next formed and after a short march deployed by two movements. The lieutenant commanding second company was slightly befogged as to whether he should wheel his fours or execute on right into line. The colonel however set his mind at rest and the movement was completed. These movements were repeated several times both right and left, all well executed, but captains were very dilatory in ordering support after the dress. On right and left into line from column of fours was repeated several times all in good shape, as were the advance and retreat in line of battle. Several general alignments, including obliques, were then executed, the instructor being careful to superintend the positions of the guides. During these alignments the officers were often at fault as to their positions, whether on right or left flank, and in one of the changes the captain of the third company ran along in rear of his command. To change front forward on first company was executed in detail, and most thoroughly explained by the instructor. A march company front was only marred by the unsteadiness of the third company and the failure of the guides to remain at the carry. The wheel into line was excellent, not a particle of distance being lost, and the dressing most prompt. The few motions of the manual were fairly rendered. The drill as a whole was a good one, and proves that time and patience is alone required to enable the men to execute each and every movement in good shape. The company officers, however, should continue to study the Tactics, and if during those battalion drills they would in clear tones repeat the orders to their companies the movements would be executed even in better form. The 8th are working hard this season, and from the progress thus far shown will be second to none at the close of the season.

the close of the season.

TWENTY-SECOND NEW YORK (CITY).—The second series of battalion drills in this command were commenced on Monday, January 6th, companies A, B and K being equalized into four commands of twelve files front. The equalization and formation was rapid and in good shape, the command being presented to Lieut. Col. Camp at twenty minutes past eight o'clock. As customary in this command, the provisions of the tactics with regard to bayonets were ignored, the battalion being formed with fixed bayonets. The drill was commenced with a march in column of fours, during which the distances and alignments were excellent, but the step too fast. A wheel by fours and advance in line of battle was then executed, the men being very unsteady. Breaking into column of companies and wheeling into line, were not as clean as might be expected, the front rank men being inattentive, while the right guide of the first company had to be placed in proper position by the Lieut. Colonel. These movements were repeated with marked improvement. From column of fours to a halt companies left front into line was incorrectly executed in double time. The instructor promptly explained the error and ordered a repetition, which although correct as to the time was marred by the raggedness of the fours and the unsteadiness of the manual. It was repeated until correctly performed. Repeated changes of front marching in line, column and by fours, were all in good shape, except that at the changes of direction in column of companies the pivot guides failed to take the nine inch step. The step of the battalion was almost perfect. Right of companies rear into column was bad. The company commanders failed to assume proper position, and before ordering the wheel into column allowed their commands to march too far to the rear. This was particularly noticeable in the second and fourth companies. In straightening this error, left guides cover, was ordered when the third company started on a side step to the right, but were quickly checked by the Colonel. The movement was repeated in better shape, but still with too much distance to the rear before the final wheel. Several on rights into line from column of companies were cleanly executed, the turns being given in fine shape; but the rule for successive formations was forgotten by all the captains, and arms were not supported. The drill was closed with several movements in the manual of arms handsomely executed, although deficiency was still observed on the part of the guides. They do not apparently fully understand the requirements of the tactics when executing the manual in line, the left guide of the battalion going through all the movements, while the right guide merely executed the order and fix bayonet. The file closers were sharp and prompt and deserve commendation for understanding and freely executing their duties.

SIXTY-NINTH NEW YORK (CITY).—On January 6 this command was assembled at the State Arsenal for battalion drill and instruction. The assembly was rounded at 8 o'clock prompt, at which time there was very slim attendance of men. As the minutes past however, man after man straggled in, the equalization being delayed by the repeated corrections of first sergeants. Adjutant's call was finally sounded at twenty minutes to nine o'clock, and the regiment, ten companies, with a nominal front of twelve files—although many of the companies had from three to five blanks in the rear—was turned over to Col. Cavanagh. In this formation the fifth company in line (E) delayed the battalion by its aimless wanderings around the left wing, and when it did reach the line succeeded in getting into wrong position and had to be corrected by the adjutant. A few movements in the manual commenced the drill, followed by a march in column of fours. During this march, which was continued for almost twenty minutes, the step was of the very worst description, the right wing being at 120 and the left at about 90. The distances were completely neglected, and all thoughts of alignments forgotten; non-commissioned officers and men familiarly talking and laughing instead of attending to the business in hand. Failing to settle the step in the column of fours, the colonel ordered a march company front, breaking into column by the Austen-Morris flank movement. This was followed by a march division front, both being of the very poorest description in regards to step, distances and alignments. Wheelings were executed during the march by companies, but as there were no markers to designate the wheeling points, the right companies crowded on each other, while the left in order to save distance wheeled too low round and were somewhat mixed. During the march division front the colonel ordered "right by companies," the first division who only heard the order hesitated to execute the movement, the left company becoming decidedly confused. The rear divisions seeing this change and not hearing the order repeated the movement one by one, all equally as bad as that of the first division. This mistake was repeated several times, each being worse than the other. Neither officers or men seeming to understand the movement. From column of fours on the left close column of division was executed, and although imperfect was the best thus far, and on repetition was fairly executed, officers and men being prompt. In breaking into column of fours from this column the rear captains were slow in giving orders to march, the consequence being great gaps in the column, which caused considerable shuffling and dressing in the rear into line. Close column on first division in

in front was the next movement; the fourth and fifth division moved promptly, but the second stood fast, the commandant not having the slightest idea of how or when to order his command. In the deployment on the rear or fifth division the interior divisions became badly confused, the fourth being so anxious to get into the line that the captain shut out the left company of the third division. On forming column of fours this same captain would have again kept this company but for the promptness of the first sergeant. A repetition of the close column movement was executed in very fair shape, but the deployment on account of want of space was somewhat confused. During these manoeuvres it was observed that one by one the captains dropped out of the line, turning over their commands to junior lieutenants, but two captains remaining to the ten companies. Double column, fours left and right, was the next order, the absence of the captains telling to the great disadvantage of the regiment. The color division moved forward in good shape, but was halted too soon, the companies of the left wing made a decided effort to complete the movement, but were not met by those from the right, the third company (B) being completely lost. It required the combined effort of the three field officers to straighten the snarl. The deployment was equal to the general run of the drill, very poor. These movements were repeated with somewhat better success, as were to and on the right close column of divisions, but the absence of the captains was felt by the men, a majority of whom had apparently lost heart in the drill, and would have left the ranks if they dared. The action of these captains in leaving their posts without permission is open to the severest censure, and Col. Cavanagh would have been justified in reprimanding them then and there. The 69th are no so well up in battalion movements that the companies work smoothly even under the captains, what then could be expected from it under control of lieutenants, several of whom were thus placed in command for the first time? The lack of military knowledge exhibited by some of these officers was of the most profound, one receiving the following rebuke from the colonel: "Well, the men will go right in spite of your wrong orders." The drill was closed by a few movements in the manual of arms, executed without regard to time or motion. The exhibition, for it could not be called a drill for instruction, not a single particle of information being given during the whole evening, was of the very poorest description, neither officers or men paying the slightest attention, and grandly careless as to whether the movements were executed properly or not.

SEVENTH-FIRST NEW YORK.—The right wing of this regiment, Cos. B, D, F and H, equalized in ten to make twelve files front, were instructed in the School of the Battalion by Col. Vose, at the arsenal, on January 7. The command was promptly formed and handsomely turned over by Adj. Stevenson, and the drill commenced with a very fine exhibition of the manual of arms. The order arms of the 71st is nearer to the perfection of the Tactics than that of any organization in either the 1st or 21 Division. The movements were commenced by a march in column of fours, during which the step varied between 95 and 120 to the minute, notwithstanding the efforts of a drummer to beat correct time. Distance was lost, and on wheeling into line gaps existed between the companies. The Tactics direct that on wheeling into line from column of fours the captains promptly dress their commands to the point of rest, yet during this drill on each and every occasion of a wheel into line from column of fours not a single captain moved, until "rectify the alignment" was ordered by the colonel, the line being then dressed toward the centre. After steadying the men in the column of fours movements the colonel ordered "change front on first company," and carefully explained the movement. In its execution, however, the company commanders were most beautifully muddled, the captain of the left company (B) being all at sea, and the second company (D) going into wrong position and becoming inverted. After a march in column of fours the movement was repeated, fairly executed by three, but again mixed by the left company. An on right into line from column of fours was completed after a fashion, the left company again being confused, and the support arms being very slow. Column of fours break from the right to march to the left was fairly rendered, the only error being the failure of the rear companies to advance at the correct time in order to save loss of distance. The movement by the left was marred by the same fault, as well as the failure of the captains to dress on wheeling into line from column of fours. Companies break from the right to march to left was decidedly poor, the turns being very imperfect and almost a complete failure on the part of the men to bring the piece to the right shoulder. The march in column and wheel into line was excellent. This movement was then executed by the left in rather poor shape, and on reaching the right of the first company, the captain of the left company ordered column of fours, the movement being repeated down the line. The Colonel promptly announced the mistake, instructed the captain as to the correct manner of perfecting the movement, and then ordered its repetition. This captain however deliberately repeated his blunder the second and third company again following suit. On wheeling into line the fours of their left company were inverted, it however caused no uneasiness to the captain, and during the balance of the drill they remained in that position. Right and left of companies rear into column was poorly executed the second company breaking on each repetition. The Colonel labored hard and earnestly to instruct the officers, but either from carelessness or inattention his efforts were wasted, and but for the guides of the left company, the right being a most excellent sergeant, few of the movements would have been correctly executed. This regiment should be in much better shape at this period of the drill season, and it is indeed up hill work for Colonel Vose and his field officers, to place and keep the battalion in the position it is entitled to, when the company officers will not study the tactics and keep up with the requirements of the service. The rank and file are second to none, and need only correct orders from captains to execute promptly and in line shape every movement of the school of the battalion. A colonel should not be expected to perform the work of company commanders at battalion drill, and the sooner officers make up their minds to read up or resign, the better for the regiment and the general service.

PENNSYLVANIA.—The Washington Grays held their annual New Year's eve entertainment. The gathering was much larger than the previous year, and the usual fun and enjoyment was indulged in, the drawing of the prizes creating a great deal of excitement and mirth. We understand a paper has been freely circulated petitioning for the continuance in office, or rather for the reappointment of a certain officer upon the staff of Governor elect Hoyt. From what we hear, it has been numerously signed, and among others by a number of officers whose rank presupposes, although it does not always warrant a full knowledge of the duties pertaining to the position. Signing such a paper, however, is certainly breaking section 26, paragraph 220, Army Regulations, and should not be permitted, being subversive to military discipline. With such an example before them, the junior officers although not justified are perhaps not so much to blame, and will no doubt be quite

safe from having charges preferred against them. Governor Hoyt might conclude that by appointing under such circumstances he would be setting a far worse example; it would thus become prejudicial to the appointment. We presume, however, the officer himself is not aware of the existence of the paper.

The second of the series of battalion drills in the 1st regiment Philadelphia was held on the evening of December 17. Cos. E, G and I with an aggregate of about 120 men, equalized into four companies, Capt. Muldoon commanding. Cos. B, C, H and A reported for battalion drill on December 18. The turnout was only fair, the four companies aggregating but few more men than the three companies on either of the previous evenings. Line was formed and the battalion fairly turned over to Lieut.-Col. Gilpin by Sergt.-Maj. Groff, acting adjutant. If Cos. B, C and H were commanded by sergeants, the formation and turning over of the battalion by the sergeant-major could be understood, and it is a sad commentary on the juniors of the 1st regiment that not one of them was deemed qualified to perform the duties of acting adjutant on this occasion. This ended the series of battalion drills for December, and without criticising them in detail at this late date, we may say generally that, considering that every evening one or more of the companies were commanded by inexperienced officers, and that probably half of the rank and file is composed of new men, it is not surprising that many mistakes occurred; but they may all be justly commended for doing so well. Although comparisons can hardly be made, we were rather better pleased with the first drill than with either of the others, the several movements being executed with greater smoothness. We also commended the first in regard to the desire evinced by all, particularly sergeants and file-closers, to carry out the details. We cannot say so much for the second and third. The fact that Colonel Wiederheim frequently corrected errors of the guides and others during the first drill was conducive to its success, and a determination thus shown to allow of nothing being overlooked will be promotive of a high standard of drill in the future if the drills are of frequent occurrence. The sergeants need posting, and should have a good overhauling. The step in the drill room is much better than on the street as far as cadence is concerned, but not so steady. An improvement can be made in the manual, the cadence being generally too fast, and several of the movements not in conformity to the Tactics. The latter may also be said in regard to the wheelings on a moveable pivot. Altogether the drills were instructive and interesting.

VARIOUS ITEMS.

- A new company is being organized for the 26th New York Battalion (Utica).
- SERGT.-MAJ. Chas. H. Mohr has been elected first lieutenant 33d New York.
- FIRST LIEUT. Edward Earl, Co. D, 7th New York, has tendered his resignation.
- THE annual meeting of the National Rifle Association will be held at the State Arsenal on January 14 at 8 o'clock p. m.
- CO. K, 71st New York, Capt. Sanford A. Taylor, has been awarded the Roosevelt recruiting medal for this year.
- CAPT. C. S. Burns won the prize (first class) in the rifle contest of the 13th Regiment Rifle Club at the armory January 4.
- MAJOR Hermann Oelrichs, brigade inspector, staff of the 1st New York Brigade, has tendered the resignation of his office.
- MR. A. Alford, who has so long represented the house of E. Remington and Sons in New York city, has succeeded to the business of their sporting department, and will continue it at the old stand, No. 283 Broadway.
- THE veterans of the 71st and 37th will elect officers at the armory of the 71st on Friday, January 17, after which a social reunion will be held.
- THE Old Guard have elected the following officers for the year 1879: Major, Geo. W. McLean; Captains, Chas. H. Todd and H. L. Ferris; First Lieutenants, E. S. Ballin and James Hamel; Second Lieutenants, L. C. Bruce and Walter K. Page.
- THE ex-members of the Galling Battery, 11th New York Brigade, have formed a veteran association.
- THE Austen-Cochen case is still before the courts, with hopes of a final decision ere the close of this month. In the meanwhile Co. I, 13th New York, is left without a head.
- ON the occasion of the distribution of marksmen's badges to the members of the 32d New York there will be a promenade concert. The committee of arrangements consists of Capts. Kiesel, Groitz, Lutz, Waage, Sergeant Hardrich, and Adjutant Karcher.
- THE 5th annual ball of the Montgomery Greys, given complimentary to ladies of Alabama, will be held at the armory of the command, Montgomery, on January 22.
- THE annual meeting of the board of control of the 2d regiment A. S. T. will be held in Montgomery on the 23d of January instead of 27th as published.
- THE 7th New York (city) will parade in full uniform at their armory on Saturday, January 25 for the purpose of receiving the "marksmen's badges" for 1878. Gen. Wingate, G. I. R. P., will make the presentation, after which there will be a promenade concert and probably a hop.
- THE efficiency of Battery H, Syracuse, Captain Paul Birchmeyer, has been the subject of most severe comments from the citizens and press of Syracuse. The report of the inspection and muster of the command in the JOURNAL of August 10, 1878, was a true statement of its discipline and efficiency, and from its showing on that occasion all expected that the battery would be disbanded.
- THE board of officers of the 32d New York elected the following civil officers for the ensuing year: Col. John Rueger, president; Lieut.-Col. Louis Bossert, secretary; Major Louis Finkelmeier, treasurer. Armory Committee—Adjutant F. ed. J. Karcher, Capt. Chas. Vorigang, and Lieut. F. W. Parisset. Finance Committee—Lieut.-Col. L. Bossert, Capt. H. Hardrich, and Lieut. S. R. Buemcke.
- THE annual meeting of the council of officers 23d regiment Brooklyn was held January 4, and the following officers selected for the ensuing year. President, Major Alfred C. Barnes; Vice-President, Colonel Rodney C. Ward; Treasurer, Capt. Willis L. Ogden; Financial Secretary, Lieut. E. W. Bard; Recording Secretary, Capt. Edwin A. Lewis; Finance Committee, Lieut.-Col. John N. Partridge, Capt. Darins Ferry, Jr., and Lieut. Francis H. Howland.
- CO. G, 14th New York (Brooklyn), entertained its friends at Gothic Hall on January 3 with a reception and ball, which proved to be one of the successes of the Brooklyn season. From the opening to the close not a moment was wasted, the interstices of the dance being filled by the melody of the Swedish Singing Society. The several committees were ubiquitous, and "all went merry as a marriage bell."
- COL. J. H. Cowperthwait, chairman of the committee to engage a suitable building for the meeting of delegates to the convention to consider a reorganization of the militia, has obtained through the courtesy of Col. Edmunds Clark the use of the officer's room, 7th regiment armory, for January 16 and 17.
- THE officers of the 9th New York have secured as a candidate for the coloncy in place of Mr. Henry Clair, an ex-field officer of one of the regiments of the 1st Division, and one whose record as an instructor, tactical and executive, are second to none in the State.
- COL. Rodney C. Ward, 23d regiment; Col. Geo. D. Scott, 8th regiment, and Lieut.-Col. Wm. G. Wilson, 13th regiment, are appointed a board for the examination of officers. They meet at the 14th regiment armory, Brooklyn, January 21, at 8 o'clock.
- "THE RIVALS," an amateur theatrical company, composed of members of the 71st New York, will play the Honeymoon at

the Lexington Avenue Opera House on January 22. They will be assisted by the band and drum corps of the regiment under the direction of Drum-Major Jenkins.

— THE 14th regiment Brooklyn will hold a drill and reception at their armory on January 15 at which the exercises will be a rifle match at 500 yards by the team of 1878, reviewed by Gen. Jas. Jourdan, dress parade and presentation of marksmen's badges, and dancing. Admission will be by ticket only.

— CAPT. H. Wadsworth Clarke, commanding Co. I, 51st New York (Syracuse), has written an open letter to Gen. Wingate, condemning in round terms the rifle practice as carried on by the State troop. His arguments are decidedly lame and impotent, and are such as are heard from officers and men who having enlisted in the service are awaiting only the expiration of their terms to take up discharges. Throughout the State and even the United States rifle practice is made part and parcel of the instruction, and a good position in marksmanship at the close of the year is sought for by every captain who has the interest of his company and regiment at heart. Capt. Clarke will live and learn.

— THIS order for the election of a colonel in the 9th New York to fill the vacancy caused by the death of Col. J. R. Hitchcock has at length been announced, and there is a probability of a choice being made on January 17. Since the withdrawal of Mr. Clair the prevailing opinion is that Col. A. H. Rogers is the coming man; still there are several new candidates spoken of, while the present commandant, Lieut.-Col. Montgomery, would poll a large vote if he would allow his name to be used.

— COL. William H. Roberts, of the New Orleans Times and a veteran National Guardsman, has prepared a work entitled "Hints and Hints for National Guardsmen," a hand book for the use of the militia and volunteer organizations of a State. The author has endeavored to explain to the citizen soldier, in as simple a way as possible, what his duty will be in any position which he may be called upon to fill in the National Guard of his State. The work is one much needed, and may be studied with both pleasure and profit by officers and more especially the staff.

— THE Board of Directors of the National Rifle Association at its monthly meeting January 7, after a lengthy and rather heated discussion on the adoption of the minutes of the executive committee September 23, 1878, changing the condition of the "Palma Match," adopted the following substitute offered by Gen. Shaler: "Prize—The American Centennial Trophy of the last winning team until the year 1884. After that year the trophy to be always held subject to challenge. In the event of a challenge being received from more than one country or province in the same year, the competitions shall take place at one and the same time, and the country or province whose team makes the highest score shall be entitled to the trophy. Such trophy shall be considered for the time being the property of the recognized head rifle organization of the country or province which the winning team represents, and such head rifle organization shall keep the trophy, and take all needful steps to insure its safe keeping, and in the event of its loss or destruction, shall have it replaced by a counterpart as exact as may be, and shall deliver it into the hands of the next successful competitors. It shall be the duty of such head rifle association to fix the time and place for holding the next competition, and to give at least six months' notice of such time and place to the rifle associations of all countries and provinces. If no entries for the next competition are received by such head rifle organization before the date fixed upon for the competition, such organization shall require its team to shoot over the ranges, and have inscribed upon the trophy the name of its country, the total score, and the words, 'No other competitors.'"

ANSWERS TO CORRESPONDENTS.

C. P. asks: Who commanded the United States forces at the battle of Pittsburgh Landing or Shiloh? ANSWER—Ulysses S. Grant. Gen. Chas. F. Smith had been designated by Gen. Halleck to command, but was disabled by sickness of which he died shortly after.

H. W. C. SYRACUSE, N. Y., writes: I wish to inquire where in the Military Code or Regulations the rule for granting brevets in the National Guard may be found? If it be not found in either, where does the Commander-in-Chief get his authority to grant them while the rule governing the appointment for ANSWER—A special law was passed granting the Governor power to issue brevet commissions. It will be found in the statutes of the State.

F. G. W. writes: Can you inform me if there has been any other attempt at mutiny in the U. S. Navy in which officers were engaged beside that which Capt. Mackenzie handled? ANSWER.—No instance of mutiny in the U. S. Navy which officers were engaged other than the "Somers mutiny" occurs to us, and we are of the opinion that this is the sole instance in our Navy. In the Royal navy of Great Britain there have been several such instances, notably the mutiny of the *Bounty*.

J. L. asks: Has the Khedive of Egypt an agent in the United States to whom a person could apply seeking a commission in the Khedive's army? ANSWER.—There is no further demand for American officers in the Khedive's army, and those who went to Egypt have returned, with one exception. We would refer you to the notice of the Government of Colombia which appears elsewhere.

T. J. M. asks: Is an enlistment under an assumed name a legal enlistment, and is there any military technicalities by which a person could get out of the Army honorably; if not, do you know of any honorable means by which a party could get a discharge by order; that is, without the aid of political weight? ANSWER.—No enlisted man can take advantage of his own wrong act. If a man enlists under an assumed name he is held to service as much as though he had made a contract under his proper name. We know of no means of obtaining an honorable discharge from the service except by faithfully serving out the enlistment or by discharge on account of disability incurred in the line of duty.

BUCKTAILS.—The 42d Pennsylvania was the original Bucktails, and was one of the Pennsylvania reserve corps, recruited by Col. Thomas L. Kane, brother of Dr. Kane of Arctic fame. The 149th and 150th regiments adopted the name, and to some extent the badge of the tail in the cap; but really had no right to either.

J. C. KANSAS CITY, Mo., writes: As Upton's Tactics are not fully explicit on some points I would like to have your opinion of the following whether correct or not. My understanding is this: 1. All wheelings form a halt, with fours, eights, platoons, companies or divisions, are on a fixed pivot, the touch or feel is to the pivot, the guide on the marching flank, the dress on the line of eyes towards the marching flank. In all wheelings while marching in either of above formation to or from a line the touch guide and dress same as from a halt. 2. When marching in column of platoons, companies, divisions, eights or by the flanks in column of fours the change direction by wheeling the touch and dress is towards the marching flank, it matters not how large a circle the guide on marching flank may describe, the line must conform to his movements even though the pivot man is drawn twice as far from his place as he should be. Is it proper to dismount a company at arms port while standing in line without facing them to the right. ANSWER.—1. You are correct, see paragraphs 56 and 59, Tactics. 2. In all wheelings the touch is toward the pivot man. 3. Yes.

SHENANDOAH, U. S. M. Corps, Brooklyn, asks: 1. On battalion drill, being in double column of fours, should the instructor command "four right, right companies on left into line faced to the rear, march?" Would such a command be proper? 2. In rally by division, how does the division form in double rank? ANSWER.—1. It would not, and if given would confuse both men and officers. 2. Paragraph 533, Tactics "Form double rank, fours right, march."

CAMP VERDE, A. T., writes: The following question coming up this morning on battalion drill, the officers are divided in opinion: The battalion commander believes that the company commanders should command double time, no matter whether the

intention of the battalion is to halt or continue the march. Please answer. Battalion marching in column of fours, quick time, colonel commands (1) "companies (2) left front into line (3) march," and it is the intention of the colonel to halt the battalion upon the completion of the movement. Do the company commanders form their respective companies in quick time or in double time? Again: Suppose it is the colonel's intention to continue the march, is or is it not his duty to command double time? or do the company commanders bring their companies into line in double time in both cases? ANSWER.—As no prescribed rule is given in the Tactics for the execution of this movement, paragraph 467, School of the Battalion, by analogy paragraph 93, School of the Company, must be used; in which case the colonel should order the front into line, with double time.

THE Post Office building at Chicago, the upper stories of which were occupied as Army headquarters, was burnt, Jan. 4. Some of the records of the Military Division of the Missouri were lost, as well as personal effects of the officers. Some of the Q. M. employees on the top of the building narrowly escaped by means of a rope. General Sheridan, who was summoned from his home, entered the building against the protestations of every one, and gave his attention to saving the papers. Firebrands were falling about him, and at last, after placing such articles as he could in the vaults, and when it became impossible to remain longer, the vault doors were secured and he made a dash for fresh air, and not a moment too soon.

THE Springfield Union (Mass.) says: "That petition against Gen. Burnside's new Army bill, which would stop the Government manufacture of arms and shut up our armory, has now attained to very formidable proportions. It is written on ordinary foolscap, the sheet being pasted together end to end, and making the entire document just 67 feet and 9 inches long. The first name on the petition is that of Chester W. Chapin, and then follow the names of C. C. Chaffee, Emerson Wight and L. J. Powers, and the signers altogether number about 6,000. The document will be taken to Washington and submitted at the next meeting of the House by Congressman Robinson of the District."

THE report of the Commission appointed by the Czar to inquire into the Intendence frauds occupies eighty large volumes of print, and implicates upwards of 500 officers in the Russian army. At one depot the Commission is stated to have discovered a deficiency of 120,000 poods in 470,000 poods of hay, and at another the stock of provisions was found to be sixty per cent. short of the account delivered. One result of the report is that all the property in Russia belonging to the army contractors Gorvitz, Gregor, and Kogan, has been seized by the government, and the members of the firm cited to appear, previous to January 1, before the Criminal Court of Odesa.

THE heaviest charge it has yet had to endure was fired from the 80 ton gun at the Woolwich proof butts on November 18, the charge consisting of 450 lb. of a new prismatic powder. The gun having been washed out, an impression in gutta percha was taken of the bore, showing that the crack in the tube, printed in a mere hair line upon the gutta percha, was none the worse for its latest exertion. The enormous charge of 450 lb. of German powder was then fired, the projectile, as before, weighing 1,700 lb. The precise results were not made known, but they are understood to be exceedingly favorable, both in the amount of energy imparted to the shot, and in the moderate pressure upon the gun. The gun was loaded by a score of artillerymen, and behaved most satisfactorily.

EXPERIMENTAL firing at Aldershot, Oct. 30 and Nov. 4, has led to the following conclusion: 1. That a great amount of careful training and practice is necessary to enable a soldier to do proper justice to his rifle, and to make the weapon tell with due effect when used at unknown ranges against troops comparatively unexposed—i. e., under the ordinary conditions of service; and 2d, that officers and section leaders must be energetic in superintending and controlling the fire, and qualified to do so efficiently. Unless the fire is delivered carefully, and the range judged with comparative correctness (the elevation being altered as the distance from the object fired at varies), a great waste of ammunition is the only result.

THE Cologne Gazette calls attention to the moderate provision made in the Russian Estimates for next year for the development of the naval, and altogether the maritime resources of the empire. About the most conclusive proof of the decline of Russian seamanship that could have been found, it says, was given in 1877, when the Russian government, which has, between 1784 and 1871, fitted out no less than twenty-one expeditions to explore the northern seas, was absolutely at a loss to find a commander for a fresh expedition to the northern coast of Siberia. The government was compelled, for want of a competent Russian officer, to entrust the command to an Englishman, Captain Wiggins.

SPAKING of the English restrictions upon military office's writing for the press the *Army and Navy Gazette* says: "If we turn to the most military of nations abroad we find that there are no such restrictions on officers. Take as examples of what we say Prussia, and read the *Militär Wochenblatt*—take France, and read the *Bulletin de la Réunion*, etc.—take Austria and read the *Vidette*—take Italy, and read the *Italiani Militari*—nay, even—take Russia, and read the *Invalide Russe*—and you will see the names of officers to articles on professional subjects which, treated with sincerity, zeal, and knowledge, must afford the most valuable assistance to the authorities in considering the question under discussion."

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Alliance.	3rd	6	615	Comdr. A. R. Yates (ord.).	European Station.	Onward.	4th	3	704	Lt.-Comdr. Chas. J. Barclay.	Storeship, S. P. Sta., Callao, Peru.
Alex. screw.	4th	2	550	Comdr. H. B. Seely.	James River, Va., Brandon, P. O.	PASSAIC, s.	4th	2	496	Comdr. James D. Graham.	Washington.
Alert, s.	3rd	6	640	Comdr. Robt. Boyd.	On way to San Francisco, Cal.	Pawnee.	3rd	2	872	Mate Joseph Reid.	N. A. Sta., Port Royal, S. C.
Alarm, s.	4th	1	400	Lt. M. G. Brown.	Washington, D. C.	Palos, s.	4th	*6	306	Lt.-Comdr. James G. Green.	Asiatic Station.
Alaska.	2nd	12	1123	Capt. Geo. Brown.	Panama.	Pensacola, s.	2nd	22	2000	Capt. John Irwin.	En route to Mexico and Cent. Am's
Alert, paddle.	3rd	6	786	Comdr. Geo. H. Perkins.	Asiatic Station.	Phlox, s.	4th	3	317	Mate Benj. G. Perry.	Tug, Annapolis, Md.
CANONICUS, s.	4th	22	550	Comdr. J. G. McGlensey.	N. A. Sta., New Orleans.	Plymouth, s.	2nd	12	1122	Capt. D. B. Harmony.	Boston.
CATSKILL, s.	4th	2	496	Lt. Jos. Marthon.	James River, Brandon, P. O.	Powhatan, paddle.	2nd	17	1122	Capt. T. S. Fillebrown.	Norfolk, Va.
Colorado, s.	1st	46	3032	Capt. Bancroft Gherardl.	Receiving Ship, New York.	Portsmouth.	3rd	14	846	Comdr. A. S. Crowninshield.	Hampton Roads.
Constitution.	3rd	6	1333	Capt. O. C. Badger.	Havre, France.	Quinnebaug.	3rd	8	910	Comdr. N. H. Farquhar.	Norfolk.
Despatch, s.	4th	4	730	Comdr. F. J. Higginson.	Constantinople.	Ranger, s.	3rd	4	541	Comdr. H. DeH. Manley.	Asiatic Station.
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Essex, s.	3rd	6	615	Comdr. W. S. Schley.	S. A. Squadron.	Rio Bravo, s.	4th	111	Lt.-Comdr. C. F. Schmitz.	Sp. Sv., R. Grande, Brownsville, Tx.	
Fortune, s.	4th	2	496	Lt.-Comdr. F. McCutley.	Norfolk, Va.	Santas.	3rd	49	1475	Comdr. Merrill Miller.	Gunnery Ship, Naval Academy
Franklin, s.	1st	39	3172	Capt. James H. Giliss.	Receiving Ship, Norfolk.	Saratoga.	3rd	4	757	Comdr. R. D. Evans.	Baltimore.
Gettysburg, p.	4th	*2	518	Lt.-Comdr. H. H. Goringe.	Cruising in Mediterranean.	St. Louis.	3rd	16	431	Comdr. Aug. P. Cooke.	Receiving Ship, League Island, Pa.
Hartford, s.	2nd	18	2000	Capt. Wm. K. Mayo.	Montevideo.	St. Marys.	3rd	16	766	Comdr. Henry Erben.	School Ship, New York.
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Jamestown.	3rd	16	888	Lt. Comdr. Henry Glass.	School Ship, San Francisco, Cal.	Tuscarora.	3rd	6	726	Comdr. J. W. Phillip.	Cruising, North Pacific.
Lackawanna.	2nd	10	1026	Capt. Ralph Chandler.	En route to Panama.	Tallapoosa, p.	4th	*2	650	Lt. David G. McRitchie.	On trip to Navy-yards.
LEHIGH, s.	4th	2	496	Lt.-Comdr. Geo. R. Durand.	James River, Va., Brandon, P. O.	Trenton, s.	2nd	11	1300	Capt. John L. Davis.	European Station.
MAHOPAC, s.	4th	2	550	Lt. Wm. W. Rhoades.	James River, Va., Brandon, P. O.	Vandalla, s.	3d	8	910	Comdr. Henry B. Robeson.	En route for Boston.
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Michigan, p.	3rd	2	130	Comdr. Geo. W. Hayward.	Spec. Serv., Erie.	Wyoming, s.	3rd	6	726	Comdr. John C. Watson.	European Station.
Minnesota, s.	1st	46	3000	Capt. S. B. Luce.	Training ship, New York.						
Monongahela.	2nd	11	900	Capt. Wm. E. Fitzhugh.	Asiatic Station.						
MONTAUK, s.	4th	2	496	Lt. Thos. M. Gardner.	Washington.						
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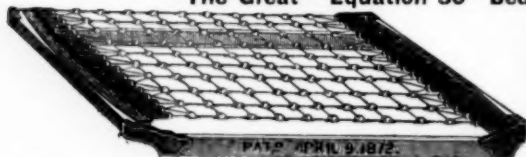
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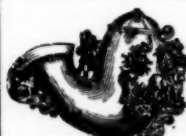
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Total surplus, do. do. do. 1,621,078.63

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Camp Halleck, Nev., October 7, 1878.

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Lieut. 1st Cavalry U. S. Army.

Camp McDermid, Nev., Nov. 8, 1878.

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DEAR SIR: The cask of crockery shipped
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A. W. CORLISS,
Capt. 8th Inf.

Camp Halleck, Nev., July 13, 1878.

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DEAR SIR: The company mess kit arrived
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I remain yours very truly,
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Fort Clark, Texas, Nov. 11, 1877.

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Old Point Comfort, Va., Sept. 7th, 1878.

Mr. E. D. BASSFORD, New York City.

My DEAR SIR: I enclose money order for
payment of my bill. The articles were received
in good order. Very truly,
PETER LEARY, Jr.,
1st Lieut. 4th Cavalry.

Fort Garland, Col., Jan'y 25.

EDWARD D. BASSFORD, Cooper Institute, N. Y.

Enclosed please find P. O. order for the
amount due you for china and silver waiter, etc.
Am pleased with them all.
Yours with respect. (Mrs.) B. S. HUMPHRY.

E. D. BASSFORD, N. Y.

Sir: Herewith please find my check for
amount of goods sent May 16th, to Col. J. P.
Willard, Santa Fe, New Mexico. The cask ar-
rived 14th June. Not a single article cracked,
chipped or broken. Respectfully,
(Mrs.) L. P. WILLARD.

Camp Halleck, Nev., October 7, 1878.

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